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Chapter 6

Trading Farm (Period 3, *c* AD 800–*c* AD 1100)

Introduction

The cultural disruption that marks the passage from Period 2 (eighth century) to Period 3 (ninth to eleventh century) was clearest in the area of the *northern workshops* (Sector 2; Illus 6.1). Here the majority of timber and turf structures were destroyed by fire and the area was then levelled with rubble including broken lumps of sculpture at a date argued to lie between AD 780 and 810 (*The raid,* see Chapter 5.11). After a short interval, (perhaps less than five years), the area was back in action, but in a new guise. The road (S13) was resurfaced with pebbles (F18). The pool (and the bridge) continued to function, at least to begin with. Vellum-making was not resumed: the new activity here was the production of non-ecclesiastical objects in silver and copper alloy, embellished with glass. This industry was short-lived: the toolkit was not augmented beyond that already known in the eighth century and radiocarbon suggests a terminus before 880. The definitive cessation of Period 3 metalworking is marked by the burial of a complete but dismembered cow (F304). The cow burial, radiocarbon dated to AD 820–1020 was sealed by a grey sandy soil C1121 that also sealed pebbled road F18, suggesting the latter had fallen out of use before the early eleventh century. A consideration of the finds associated with the metalworking venture in Sector 2 suggests it endured over a maximum span of late eighth to early tenth century.

In the south field (Sector 1), *S1* was refurbished, provided with an upper floor and a flue and is thought to have now functioned as a kiln barn. The new barn seemed destined to endure: the S1 flue was last used at a date between 1020 and 1210. A superficially similar but smaller and incomplete version of this building (*S5*) was also used to dry grain. The last use of the hearth in S5 occurred before 900, and its associated ditch was filled before 1030. The enclosure ditch *S16* (F132/158) had become choked with vegetation before 940 and one of its neighbouring drains (F18) was defunct before 1020. In the cemetery on the hill where the church now stands (Sector 4), burial continued, if intermittently and in small numbers, following the earlier tradition into the eleventh century. A hoard of ring silver was deposited on the north side of the burial ground in *c* AD 1000 (see Chapter 2, p 16).

The destinies of the three sectors were different, but there is a case for seeing Period 3 as being divided into two main stages. In the first of these (3A, 780–900), the metalworkers flourished, the road was resurfaced, the pool contained water, and barns and driers to support cereal cultivation were built to the south. This community continued to bury its dead in the old monastic burial ground with traditional rites. The artefacts offered no obvious cultural affiliation, Pictish, Norse or Scots, and there were few signals of monastic or even Christian alignment. In the second phase (3B, 900–1050), ditches and pool dried up and the road was finally redundant. Burial occurred spasmodically over the cemetery. A silver hoard buried near the cemetery in around AD 1000 was not retrieved. The written evidence demonstrates that both the resurgence of Period 3A and the bleak silence of Period 3B took place against a turbulent background: the Tarbat peninsula was in a war zone (p 341). It was probably not until the mid-twelfth century that Portmahomack revived with the building of St Colman's parish church (Chapter 7).

Redevelopment in Sector 2 (Illus 6.1–4)

Recovery

The initial activity following the fire was a deposition of spreads of sands and stone rubble covering the destruction horizon. The rubble spreads included 230 fragments of identifiable sculpture (including simple plain-faced fragments) in one instance reusing a relatively large fragment as packing for a sandstone slab surface (Chapter 5.11, Illus 5.11.3). This dumping of hard-core had the effect of drying out the ground formerly drained by the roadside ditches. The road itself (*S13*) was resurfaced in small, well-sorted pebbles, spilling beyond the stone kerbs (F18), the maintenance of the route implying that the bridge remained in service (Illus 6.3). Some areas of the original roadside ditches became partially backfilled but nonetheless visible. The eastern boundary wall was reused in its collapsed state, and the pool continued to hold water, since debris from subsequent Period 3 metalworking was dropped into it.

The culvert that provided the pool overflow (F431) was eventually blocked to within a few centimetres of its roof with a concreted mass of sandstone rubble, pebbles and sand (see Illus 5.5.20). There was no clear indication of how such solid blocking material had arrived beneath the large capstones of the bridge. The verdict is that it was deliberately introduced, possibly to maintain falling water levels. The ultimate fill was identified as in-washed woody material, especially elder, and the beetles recorded in the final fill of the culvert were of terrestrial species, one of which,

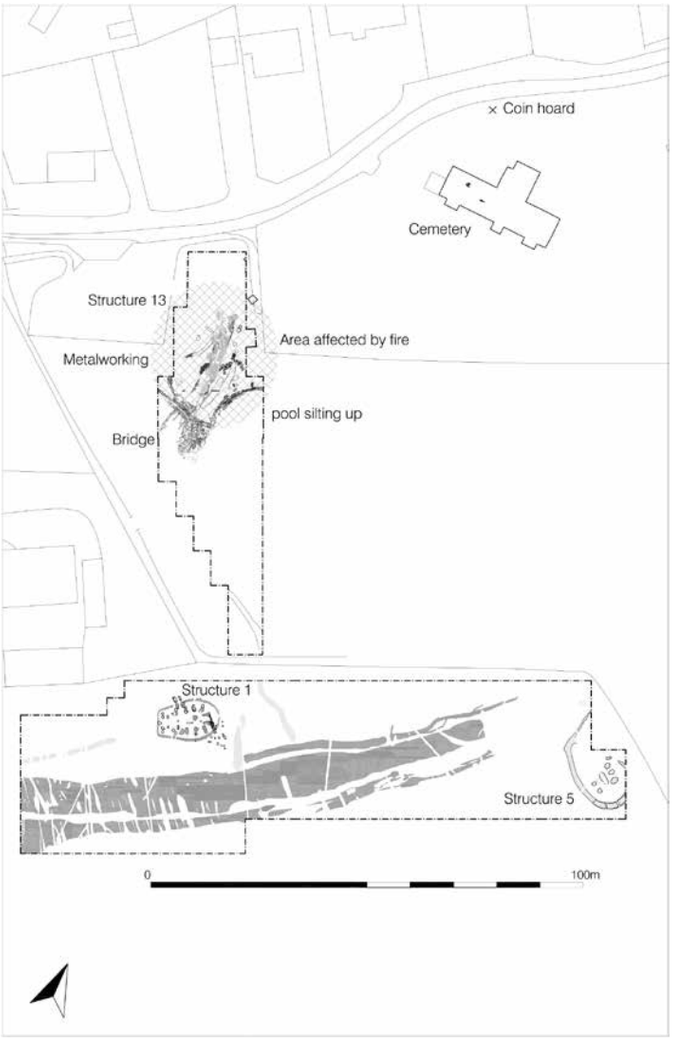


Illustration 6.1
Plan of activities in Period 3

Grynobius planus, is a wood borer and associated with trees (Kenward in Digest 7.4). This suggests that the pool became earthbound and overgrown with elder, as the stream slowed to a trickle.

Dated objects

A group of indicative objects was recovered from layers deposited at the time of the fire or shortly after and should provide a broad domestic signature for the revived settlement (Illus 6.4; Illus D6.1.11; Digest 6.1). A blue glass bead (24/4570) which probably dates to the seventh to tenth century was recovered from the stony disuse of the S7 culvert F432; from a definition layer (C1501) within Period 3 dumps came a fragment of reticella-decorated glass vessel (24/2885) dating to the eighth to ninth century (Campbell in Digest 6.7). Other objects from Period 3 contexts include roughouts for a possible albertite bangle, a cannel coal bracelet fragment and a shale counter or gaming piece (24/2194, 3591 and 4192; Hunter in Digest 6.3). A copper-alloy stick pin recovered from soil spread C1878 (24/4576), which lay immediately beneath Period 2 destruction layer C1662, may belong to a group of pins 'current at the time of the Viking raids' (Laing 2006, 165). Two further examples (24/504 and 527) were recovered from soil layers (C1002 and C1292) in the area of the pool, marking its gradual terrestrialisation. Two fragmentary combs of seventh- to ninth-century date were recovered from grey sandy soil sealing the Period 3 metalworking complex (24/48 and 1548). A further comb side plate dateable to the tenth to twelfth century was recovered over the Period 3 monastic road (14/271) (Ashby in Digest 6.4). From a levelling of Period 2 strata (C2578) came a *painted pebble* (24/6297) of uncertain role. This type of artefact is peculiar to north Britain and the majority of the fifty-five examples noted by 2014 had been found in Shetland, Orkney and Caithness (Arthur & Murray 2014). Those recovered by excavation have been dated to

Illustration 6.2
Dateable objects: (a) comb connecting plate (14/271); (b) copper-alloy stick pin (14/4576)

Table 6.1
Chronology for Period 3 (excerpt from Table 3.1)

DEFINED PERIOD	SECTOR 1 [South Field]	SECTOR 2 [Glebe Field]	SECTOR 4 [Church]	The Tarbat Peninsula
RAID 780–810	*End: 700–840*	*Burnt workshops* Timber 26/1030 [O-9664] 330-550 (Prob. *c* 800: old wood) Hazel stake F490 [S-13273] 400-570 (Prob. *c* 800; old wood) Wattle on terrace F483 [S-13274] 610-690 (Prob. *c* 800; old wood) *D5*. Burnt wattle 2704 [S-13275] **650–810** Sculpture broken up **after late eighth-early ninth century** *End: 710–780*	*Conjectural victims of raid* Burial 158 [GU-9296] **680–900** [Blade wound, healed] HS Burial 152 [GU-9297] **780–1000** [Blade wound, fatal] *End: 690–790*	
HIATUS *1–5 years*				
PERIOD 3 ninth/eleventh century 3A Resurgence *c* 780–900	*Start: 740–880* *Farming* S1 re-used as kiln barn S5 Kiln barn Disuse of Enclosure ditch F132 [GU-3265, 6, 7] 140-410, 250-530, 350-580 (secondary peat deposit) Last use of S5 Hearth in S5 F13 [S-13283] **680–900** Willow twigs from disuse of enclosure ditch F132 [S- 13286] **680–940**	*Start: 735–965* *Metal-workers* *D6* Metal-working hearth F148 [S-13281] **660–880** *D7*. Latest deposit in pool C4863 [S-14995] **650–840** Crucible and mould typology**, before *c* 800** Culvert F431 blocked	*Start: 720–895* *Cemetery* *B3*. Wicker Burial 147 [O-13485/fish] **720–960**	*The Portage?* *Norse settlement at Cadboll, Arboll, Bindal, Geanies, Shandwick*
3B Abandon 900–1100/1150	Backfilling of tributary ditch F18 [O-9662] **790–1020** Backfill of ditch around S5 [S-13284] **890–1030** Last use of flue of S1, F79 [S-13285] **1020–1210** *End 1025–1250*	Disuse of Road 2: Cow burial F304 [S-13282] **830–1020** *End: 775–1130*	*A5*. HS Burial 136 [S-33406] **970–1040** Burial 156 [S-33411] **970–1040** *C1*. HS Burial 111 [S-33402] **1020–1170** *End: 1025–1175*	*Hoard of ring-silver and coins deposited north of the church in* c *1000*

Illustration 6.3
The resurfaced road (S13, F18)

the Late Iron Age and recovered from various contexts including burial (The Hallow Hill), a decommissioned post-hole (Birnie) and a possible iron workshop (Sandwick, Shetland). A primary origin at Portmahomack within Period 1, 2 or 3 would be equally plausible. Various uses have been suggested, including magical charm or the talisman of a smith (ibid, 7). Painted pebbles, which would make suitable playing pieces, here perhaps imply contact with the northern isles. A stone gaming board with unfinished incised layout (14/3932), anticipated a design of Irish, British or Scandinavian derivation (Illus 6.6; Mark Hall in Digest 6.12). Although a gaming board could have been in use in a monastery (as at Inchmarnock; Lowe 2008, 3), this example was found in a layer (C1660) deposited after the primary burning, in company with a whetstone and should belong with the new initiative of Period 3.

Metal- and glassworkers (OLA 6.2 at 3.4.3)

Period 3 in Sector 2 offered a rare example of metal- and glass-working waste which can be directly associated with a suite of smiths' hearths and working surfaces. The focus of the activity was the area to the immediate east of the road, where a group of clay- and stone-built hearths for metalworking was installed on the area that had been levelled with rubble and smashed sculpture (Illus 6.2). Associated with these hearths were droplets of copper alloy, and crucible and clay-mould fragments, often quite fragmented and recovered from hearth fills or trampled layers. Metalworking waste dumped over the east and west boundary walls, including crucibles and clay mould fragments, are considered to have derived from this activity.

Hearths

At the south end, the stratigraphically earliest Period 3 feature was a three-sided stone-lined hearth (F493) measuring 0.5m NW–SE by 0.4m NE–SW. An initial remnant of charcoal-rich fill had been cleaned out prior to relining with a sandstone slab. Like all similar hearths at the site, it was subject to careful maintenance and refurbishment. Hearth F493 was succeeded by a second stone-lined hearth F148, which was also made of low stone kerbs (Illus 6.7a). Small lumps of fired clay were found to abut the hearth around its perimeter. The clay-silt fill was laminated, possibly indicating a number of distinct fires. It contained three fragmentary ceramic moulds and droplets of copper alloy.

Close to the western kerb of hearth F148 was an amorphous fired clay lump overlain by two mixed lenses of clayey silt containing high percentages of charcoal, bronze-rich fuel ash and a copper-alloy droplet. Upon excavation it became clear that these represented the disturbed remains of a small clay-lined hearth F479. To the south of F148 was a better defined clay hearth (F353) with a sandstone slab lining and low walls of fired clay, measuring 0.35m north to south by 0.30m east to west (Illus 6.7 b–d; Illus 6.8). Metalworking residues and finds included a bronze droplet, dribbles of cuprous-oxide-rich fuel ash, vitrified crucible fabric and a small undiagnostic piece of iron. Adjacent was a third smaller clay hearth (F484), which appeared as an intermittent circular fired-clay ring measuring *c* 0.25m in diameter. The *fuel* used in hearths (F148, F353) was primarily oak charcoal, with other woods (hazel) and peat used as subsidiary. Calcined bone was found among the clay silts, implying its continued use as fuel in this period.

To the south of the clay hearths was a third stone-lined hearth (F478), which appeared as an arc of sandstone slabs measuring 1.10 × 1.05m. Nearby a small stone lamp or mortar was recovered sitting on the eastern boundary wall (F149; 14/6847) and an iron pricket (for lighting) (14/1394). These hearths were connected by a patchy trample of compacted light olive-brown clayey silt, which contained ash and metalworking debris. A series of dumps and spreads were identified overlying this trample layer, also containing metalworking debris, including crucible and clay mould fragments (contexts listed in OLA 6.2.1, p 47). Finds associated with the debris included a silvered, copper-alloy mount decorated with interlocking C-spirals (14/2134), a Roman carnelian cabochon (24/6452) and a copper-alloy fretwork mount (24/2277) (Illus 6.4; Illus D6.1.12). Some of this material is likely to represent the recycling of pre-existing metalwork.

The northern group of Period 3 features comprised two further hearths and associated scattered features. Hearth F34 consisted of a three-sided stone kerb containing a yellow clayey-silt ash fill.

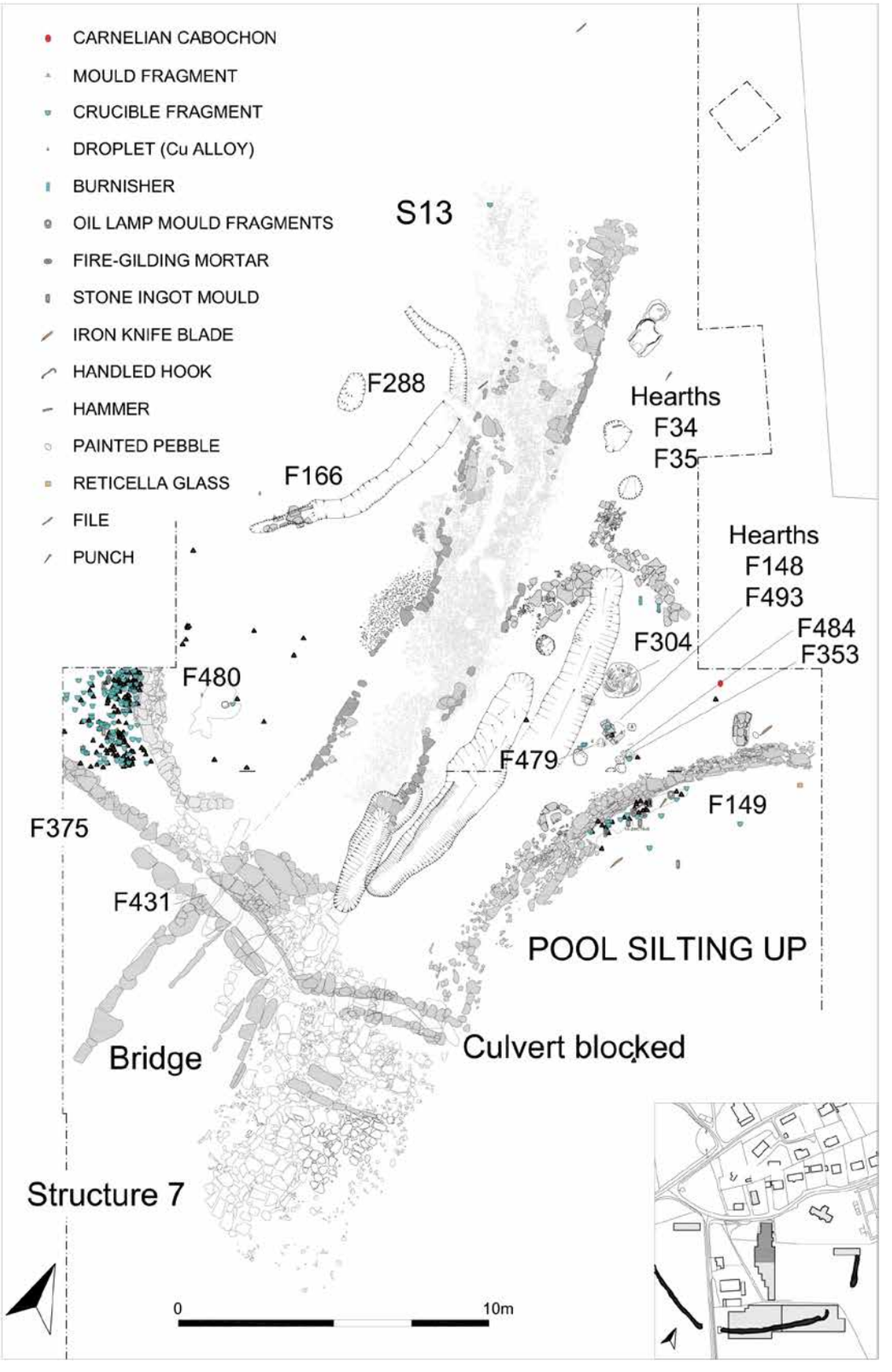


Illustration 6.4
Plan of the Period 3 metalworking area in Sector 2 (north)

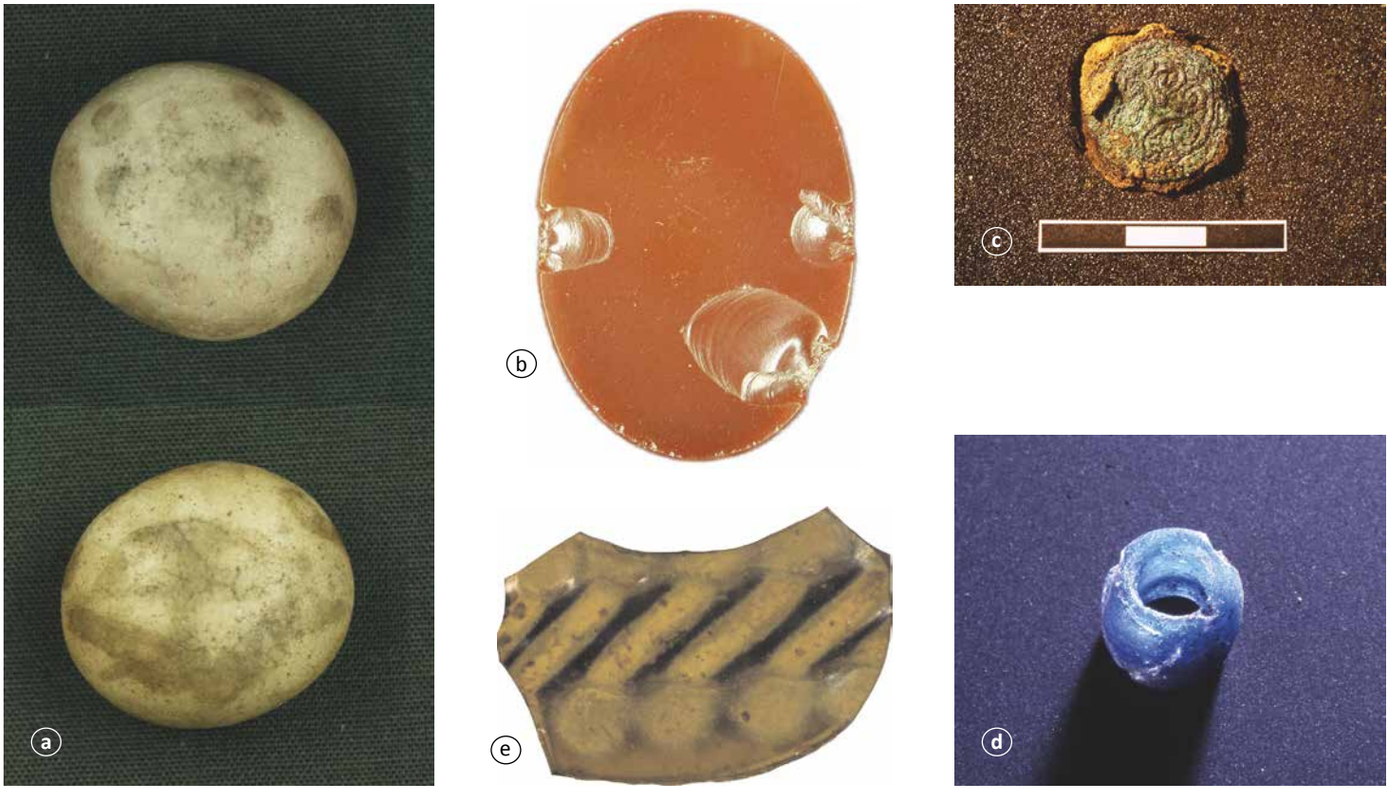


Illustration 6.5
Finds from the metalworking area: (a) Painted pebble (24/6297); (b) Roman carnelian cabochon (24/6452); (c) silver-gilt copper-alloy stud decorated with interlocking C-spirals (14/2134); (d) blue bead (24/4570); (e) vessel glass fragment decorated with reticella trail (24/2885)

Surrounding it was a stone slab surface also covered with patches of yellow clayey-silt ash. To its south-east was F35, a rectangular, partially stone-lined hearth defined by remnants of kerb defining an ash fill. It consisted of a circular platform measuring 0.7m diameter connected to a sub-rectangular platform measuring 1.5×0.8m (Illus 6.7).

Period 3 activity to the west of the road was more dispersed but still had metalworking associations. A pit (F288) was remarkable for the quantity of ironworking residues it produced, including 2kg of undiagnostic slag, 0.65kg of hammerscale and 0.1kg of tap slag. The feature is isolated but clearly indicates that iron-smelting and smithing was taking place during Period 3 (see *slags* below). Near it was a culvert (F166) lined and lidded with two conjoining fragments of sculpture depicting a bull, a cow and a calf (TR28/35; Illus 6.9; see also Chapter 5.3, p 146).

The glass and metalworkers' assemblage

Metalworking

Between the western boundary wall (F480) and the north wall of the overflow culvert (F375) a rich assemblage of non-ferrous metalworking debris had been dumped. In the lower deposits, definition deteriorated markedly and the dumping may have taken place in water. The large assemblage recovered from these deposits included 130 crucibles and fragments of crucibles, 177 fragments of clay mould, sixteen stone objects, an assemblage of slag and nine flint chips and flakes thought to represent strike-a-lights. Overall, the assemblage included *crucibles* and *moulds* for casting a wide variety of non-ferrous artefacts, moulds and trays from *glass-working*, a *smith's toolkit* and copious amounts of *slag* (Digest 6.1, 6.5, 6.6, 6.7, 6.9; D6.1.12–20). A fragment of smashed sculpture was recovered from the dumps which conjoins with two fragments from Period 3 preparation deposits to the east of the road (TR217, 223, 263; Illus 5.3.46).

CRUCIBLES

A total of 225 crucible fragments, of which 143 were identified to type, were recovered from Period 3 contexts (Illus 6.10a–d; see also Illus D6.1.14, 15). They are far better preserved than those from Period 2 and more types are represented (for details see Spall in Digest 6.5). Crucibles are identified as Heald Type A, B, a D-Type variant and G (Heald 2003). A total of thirty-four A/B1 type (including probable examples of Type A1) and forty-six A/B2 type (including probable examples, of both A2 and B2) were recorded. A further fifty Type G crucibles were represented along with Type I crucibles, or trays. Radiocarbon dating (see Chapter 3,

Illustration 6.6
Gaming board (14/3932)

Table 3.1) and the dating of the sculpture suggest that the metalworking in Sector 2 may have continued into the early ninth century, which would extend the chronology for Type A/B and Type G crucibles slightly. Not only was the number of crucibles recorded greater than those of Period 2, but the types identified tended to be those with greater capacity, ie Type A/B2 and large G1-types. Analysis of both crucibles and droplets indicate that the same range of alloys was being worked and castings included silver and copper alloys, while the droplets that were analysed were all identified as leaded bronzes.

Clay moulds for casting non-ferrous metals were distinguished among 709 mould fragments, and the objects that had been made were wholly or partially identified (Illus 6.10–13; Illus 6.16–20; for details see Spall in Digest 6.6). These comprised pins, rings, a brooch, buckles, strap ends, mounts and weights. Several valves bore the impressions of *dress pins*, mostly part pin shanks (24/3479, 3486, 4030 (double) and 8225). A near-complete lower valve missing the top end and ingate appeared to represent a stick pin perhaps of brooch-pin style (24/4020), while another appeared to be a part pin-head matrix of possible styliform type (24/5411). Three valves appear to relate to *pins or rivets with zoomorphic heads* (Illus 6.10). A near-complete lower valve retains a matrix of pin shank and irregular form head, which is eroded but may have been zoomorphic (24/8138). A complete lower valve matches another lower valve fragment and both appear to have been impressed with the same model (24/4574 and 4579).

Moulds for rings included five clear examples of *finger rings* with integral cast bezels which formed simple decoration either as a small group of lobes (24/4573, 5410 and 8360) or triangular (24/8121 and 24/8342) all closely paralleled at the Brough of Birsay (Curle 1982, 32–3) (Illus D6.1.17). Eleven simple ring matrices were also identified and probably belong to finger-ring moulds (Digest 6.1). Several mould fragments point to the production of a large *brooch*. Four valve fragments were found to conjoin to form two valve fragments (24/8180 conjoins 8344 lower and 24/8176 conjoins 8383 upper) and also to unite with each other (Illus 6.11). The fragments were identified initially as a group by the unusual pale pink firing and very fine clay fabric. They can be associated with 24/8228, which bears the part impression of three small possible ring or disc matrices. The conjoining and uniting fragments appear to form part of a brooch hoop with possible facets and, while it is not clear how valve fragment 24/8228 is related, the pieces form a distinct family. The unusual clay fabric and the care with which the mould was made suggest a fine and accomplished high-status product that may well have been composed from a number of separately cast elements. A further lower valve fragment was severely eroded but retained the deeper parts of a complicated, possibly bossed item (24/3598). The fragment bears four depressions, one sub-oval with vestigial fine interlace and neck connecting to deeper sub-circular depression in turn connected by a collared neck to a smaller sub-oval depression with a further separate depression. The exact item intended cannot be clearly identified but the piece could represent an elaborate brooch terminal intended to be fastened to a hoop cast separately.

A group of four similar lower valves bears the impression of a possible small *buckle plate and part tongue*, a simple bar with projecting tab (24/3849, 8196, 8373 and 8295 conjoins 8374). Two further valves appear to bear the impression of small *belt fittings* (24/5348 and 8323). A small group of valves which appeared to be related to the simultaneous casting of simple *strap ends and links* were identified (11/3643; 24/3575, 5417 and 8272). A further valve bore a more complex impression of a tab with raised rim containing a series of lobate impressions and may represent part of a strap end (24/3416) (Illus D6.1.16).

DECORATIVE MOUNTS

One example consisted of part of the upper mould of an escutcheon of possible sub-oval form impressed with the part matrix of a dragon-like creature including its head with open jaws and part spiral limb (24/8200) (Illus 6.13a). This animal form is already known in the Tarbat artistic repertoire being represented

Illustration 6.7
Metalworking hearths (east): (a) stone-lined hearth F148 (b) and (c) clay-built hearth F353 (d) lifting F353

on TR20 and TR205 (Chapter 5.3, Illus 5.3.20, 5.3.29). Two other zoomorphic mounts were detected in the assemblage. Two conjoining fragments of upper valve bear the part matrix of a fish with symmetrical tail, part body and fin defined by parallel ridged decoration (24/8258 conjoins 8337) (see Illus 6.13b). The cast item may have been three dimensional or flat-backed. As the former, the complete item may have been mounted onto a large composite piece of metalwork, perhaps the interior of a hanging bowl or in the latter as an appliqué mount. The ribbed style of decoration is similar to that employed on zoomorphic escutcheons on the hanging bowl from the St Ninian's Isle treasure (Small et al 1973, Bowl No 8). The other zoomorphic mount consists of an upper valve with the impression of a tapering strip with gilled decoration from a central spine leading to possible animal-head terminal (24/8343).

WEIGHTS

A noteworthy group of moulds are so far unique and tentatively identified as for casting copper-alloy weights (Illus 6.14). They fall into two types. *Type A* was represented in nine valves, both upper and lower (24/8195 conjoins 8221, 8086, 8273 and 8130), including four valves that unite to form two near-complete Type A matrices (24/8270 unites to 24/8172 and 24/8319 unites to 24/8292). Type A consists of a shape best described as acorn-like with a pyramidal lower half and small rounded knop, and in the case of Type A sometimes with a circular tab at the top of the knop which may have been drilled through following casting (Illus D6.1.19). *Type B* was represented by eleven valves, again both upper and lower although none could be united (24/8194, 8096, 8140, 8093, 8128, 8222, 8324, 8235, 8094, 8206, 8363). The objects cast in Type B valves clearly represent a very similar type of object with a pyramidal bottom half and a much taller knop without clear evidence for a tab (Illus D6.1.20). A further lower valve with deeply impressed object appeared similar in overall form but was unique in the assemblage (24/8152). This valve bore the impression of an object with a squat sub-cylindrical shaft leading to a bulbous terminal. A possible parallel to the made object (in copper alloy) was found at Lejre in 2009 (Roskilde

Illustration 6.8
Hearths F34 and F35

Museum archive LE OPx22; thanks to Jane Kershaw, UCL, for this information).

These metal weights are among the most powerful signs of a change in direction at Portmahomack towards a more commercial ethos. Examples occur in both copper alloy and lead in England, Ireland, Scandinavia and the northern isles (Kruse 1992; Wallace 1987; Owen 1999). A review published in 1992 located forty-three weights of the ninth to eleventh century in England, the majority from Coppergate, York with a handful from East Anglia (Kruse 1992, Table 1). Types included spheres, polyhedrals, pyramids and discs, some stamped like coins (ibid, 78–84). The dating and distribution of the early English weights coincides in place and time with the Scandinavian occupation of Northumbria and East Anglia in the late ninth to early tenth century. The weights have a varied metrology, standards assigned to different countries being found at the same site. At Flixborough, Lincs, among the four lead cylindrical and three disc weights were alignments to the Anglo-Saxon (3.1g), Scandinavian (4.07g) and Dublin (4.43g) standards (Wastling in Evans & Loveluck 2009, 422).

LEAD WEIGHT

Calculation of the standard implied by the Portmahomack moulds would probably be too inaccurate to be useful, but we do have one actual weight of the period, recovered from the topsoil by a detectorist in Sector 1 (11/4158). This was cylindrical in shape, measured 21.8mm in diameter by 7.1mm in height, and weighed 26.3g before conservation (Illus D6.1.12). The weight indicates it was meant to measure the (imprecise) Viking *øre* (ounce) of 26.5g or 24g (Owen 1999). The heavier ounce is thought to have been used in the earlier Viking Age (Digest 6.13). The best parallels to the Portmahomack weight are two from Scar on Sanday both cylindrical and weighing 26.65g and dated AD 875–950 by association with the boat burial excavated there (Owen 1999, 118, 124; Digest 6.13).

Illustration 6.9
Stone-lined gulley F166 (below) with its sculptural capstone (above), as first revealed

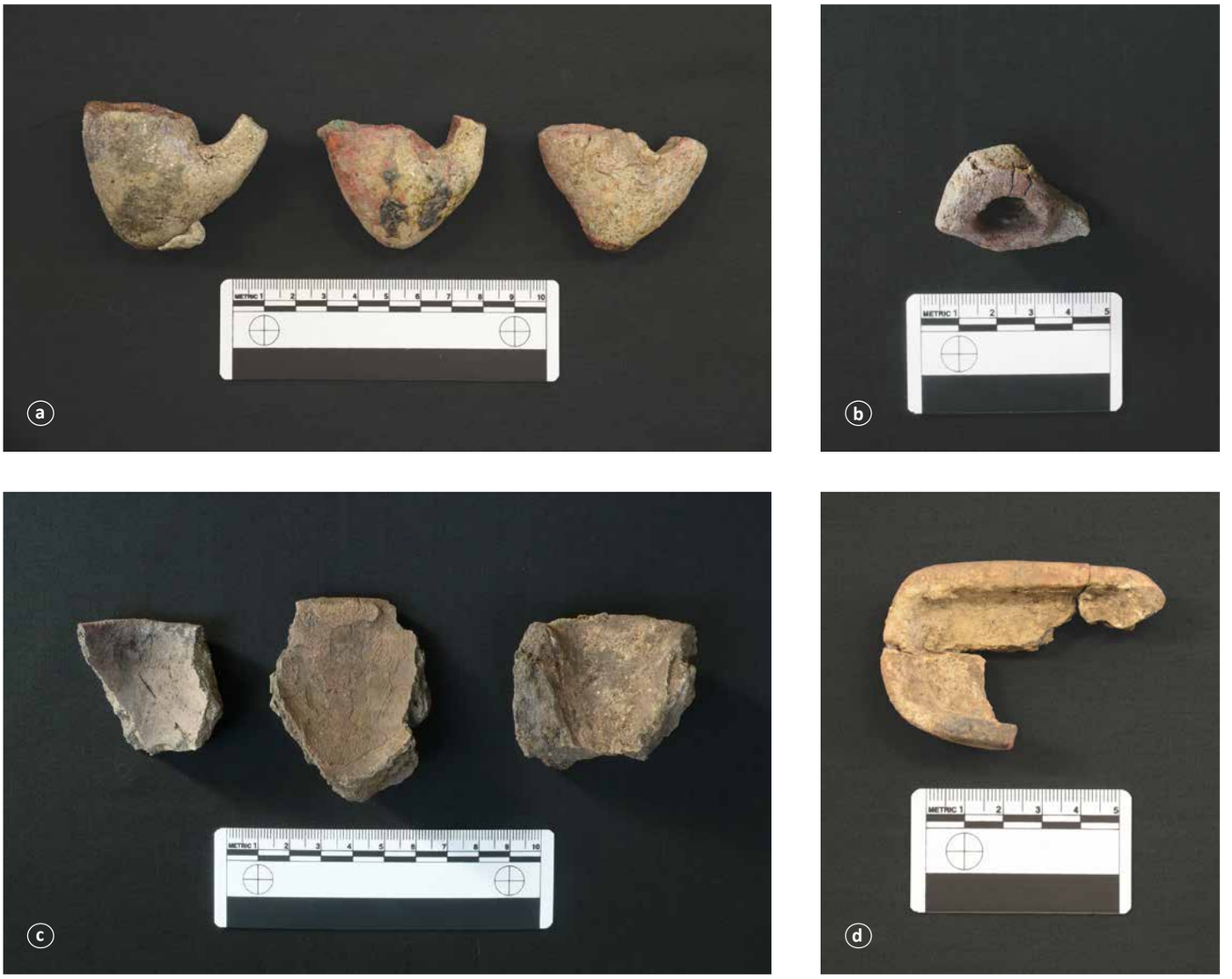


Illustration 6.10
Period 3 crucibles: (a) Type G1 crucibles (right to left 24/4568; 3913; 8089); (b) Small Type G1 crucible (24/8150); (c) Type A/B2 (right to left 24/8298; 8052; 14/3965); (d) Type I crucible or tray (24/4585 conjoins 1612)

OBJECTS WITH TABS

A group of fifteen valves and fragments are linked by a distinctive trapezoidal tab integrated into the object matrix (Illus D6.1.18). The items being cast included small tabbed individual tapering strips (24/8106, 8169, 8174, 8240 and 8371) sometimes paired and united by a single trapezoidal tab (24/5371, 8153 and 8335), tabbed strips with spiral terminals (24/4581 and 8085), and a tabbed strip with T-bar (24/4582). A further three valves could be grouped here since they bore fragmentary trapezoidal tabs (24/4580, 5397 and 8203).

A valve fragment from the Brough of Birsay was identified as having a trapezoidal tab integrated into the matrix (Curle 1982, 35, No 374) and other examples of tabbed matrices can be identified from the site (Curle 1982, 34, Nos 343 and 348). Curle suggested the tab was designed to be folded round another object, which seems a reasonable suggestion, although it does not aid with deciding the purpose of the Tarbat moulds. The production of items of personal ornament including dress pins, finger rings, strap ends and the tabbed items, indicate strong affinities with the technology and in some cases the products of the Pictish level workshop at the Brough of Birsay (ibid).

STONE INGOT MOULDS

Several stone ingot moulds (Illus 6.14) were also present in the metalworking dumps based on sandstone tiles with elongated sub-rectangular matrices (24/3505, 4619, 7840, 4594 and 4618).

Illustration 6.11
Period 3 moulds for pins/rivets with zoomorphic heads (detail) (24/4574, 4579, 8138)

Ingots of this form are present in hoarded material suggesting that the workshop was making metal ingots, probably both in silver and copper alloy, for controlled redistribution. A further mould represented by two conjoining pieces has a circular matrix (24/7846 and 7900). The mould would have produced a shallow disc of metal suitable for hammering into a vessel form such as a bowl.

OIL-LAMP MOULD

A fragmented but complete stone mould was of a kind used to hammer metal into a shaped vessel, in this a case an oil lamp (Illus 6.16a; 24/3503; 4617). It joins the smith's hammer (below) as evidence for sheet-metal working. Two close examples come from early Christian sites, one from Nendrum, Co Down (Lawlor 1925, 135, Plate 10) and another from Garranes, Co Cork which features cross ornament (O'Riordan 1942, 109, Fig 10).

MORTAR, POSSIBLY FOR FIRE-GILDING

A small stone mortar formed from an oval flat beach pebble with a central hemispherical indentation was recovered from C1545 (Illus 6.16b; 24/3502). The indentation is incredibly smooth and only 30mm in diameter by 20mm deep; the quantities ground were clearly small scale. A mortar with close affinities to the Tarbat example comes from the Middle Saxon settlement at Southampton recovered from an early ninth-century craft-working context. It also has a small hemispherical depression and was covered with powdery adhesions which, when analysed by XRF and emission spectroscopy, revealed among other elements the presence of a gold alloy and mercury salts (Hinton 1996, 80–1). Examination of 24/3502 by XRF revealed no traces of gold or mercury (OLA 7.1.6.5). The practice of mercury or fire-gilding is commonly identified in early medieval items from the late fifth to sixth century onwards. In spite of the number of known fire-gilded objects evidence for the actual practice of mercury-gilding is scarce (Spall 2006).

Glass-working

GLASS-WORKING MOULDS AND TRAYS

Glass-working during Period 3 is attested by two open clay moulds (24/5520 and 8020). 24/8020 is a small drum-shaped mould with an eroded oval matrix and may have produced a plain cabochon. 24/5220 bears a geometric decoration based on a tripartite Y-division with stepped arms radiating from the centre (Illus 6.17). The mould would have produced a small stud, *c* 12mm diameter with sunken design, which may have been left plain or been inlaid. The mould reflects the two glass studs recovered from Period 2 and closely matches the size and ornament of the studs on the rear of the Tara brooch.

CABOCHON

A carnelian cabochon without *intaglio* was recovered from dumps of sand over the primary burning and has been dated to *c* second century AD (Martin Henig, pers comm). The gem is damaged having been gouged from its metal setting, which implies recycling of metal rather than intended resetting of the stone (see Illus 6.5a). Reset gems are known in finished items, but examples from

Illustration 6.12
Brooch mould (24/8180, 8344 and 24/8176, 8383)

contemporary craft-working contexts are rarer. Several gems were recovered from excavation in the marketplace at Ribe including carnelian, sard and glass paste gems (Melander 2001). Another, similarly damaged, carnelian intaglio was recovered from a cesspit at the Anglian trading settlement at York (Henig in Spall & Toop 2005). These gems were discarded and rendered unsuitable for reuse having been much damaged during extraction.

Tools

A group of iron tools recovered from Period 3 contexts includes an iron punch (14/1259), two iron files (14/4311, 24/4288), two knives (24/6591, 24/3045), a hammer head (14/2520) and an iron pricket (14/3294) (Illus 6.18; Illus D6.1.13). The *hammer head* was recovered from a Period 3 ash-filled fire pit (F299). It has one sub-square and slightly burred face opposed by a chisel-shaped peen and sub-oval eye for a wooden handle. Small hammers recovered across early medieval Europe are reported as for the working of precious metals, primarily for light, cold working including wire-making, beating out sheet and sheet forming (raising, peening and planishing) and fine chase decoration. Examples are known from craft-working contexts at Hedeby, Sweden (Armbruster 2006, 38), Tjitsma, Wijnaldum, Netherlands (Tulp 2003, 223), Mastermyr, Norway (Arwidsson & Berg 1983, 31), Tattershall Thorpe, Lincolnshire (Hinton 2001, 20), Dunollie, Argyll (Alcock & Alcock 1987, 139) and a jeweller's or cobbler's hammer from Johnstown 1, Co Westmeath (Clarke & Carlin 2008, 80, Fig 4.7a).

TOUCHSTONE

Touchstones assay the presence of precious metal by picking up fragments of gold and silver from the surface of an object and are widely distributed in early medieval north-west Europe (see Ježek 2013 for a recent review). The Portmahomack example is well finished, made of dark metaquartzite and measures 58 × *c* 17.5mm^2 in profile (Illus D6.1.13). It compares well to examples from early medieval contexts including from seventh-century graves in Kent, from ninth- to tenth-century craft-working deposits at Winchester (Moore & Oddy 1985), from Coppergate of ninth- to tenth-century date (Mainman & Rogers 2000, 2497), a possible example from Whitby (Backhouse 1981, 31) and two of fifth- to ninth-century date from excavations of the Frisian terp-mound at Tjitsma, near Wijnaldum (Tulp 2003, 223, Fig 17.2).

The Tarbat stone was submitted for XRF and SEM, undertaken by Jim Tate and Lore Troalen of the Analytical Research Section of the National Museums of Scotland (OLA 7.1.6.5); no traces of gold could be found, although brass alloy was present confirming the object's association with metalworking (Spall 2006).

Ironworking

A total of 109kg of ironworking slag indicated that forging and smelting iron was part of the Period 3 metalworkers' output. Nearly 3kg of tap slag was recorded, showing that smelting was being undertaken, although none could be associated with specific features. A similar quantity of vitrified furnace lining was also present, along with 0.8kg of tuyère fragments including a single, complete tuyère recovered from deposits that made up the Period

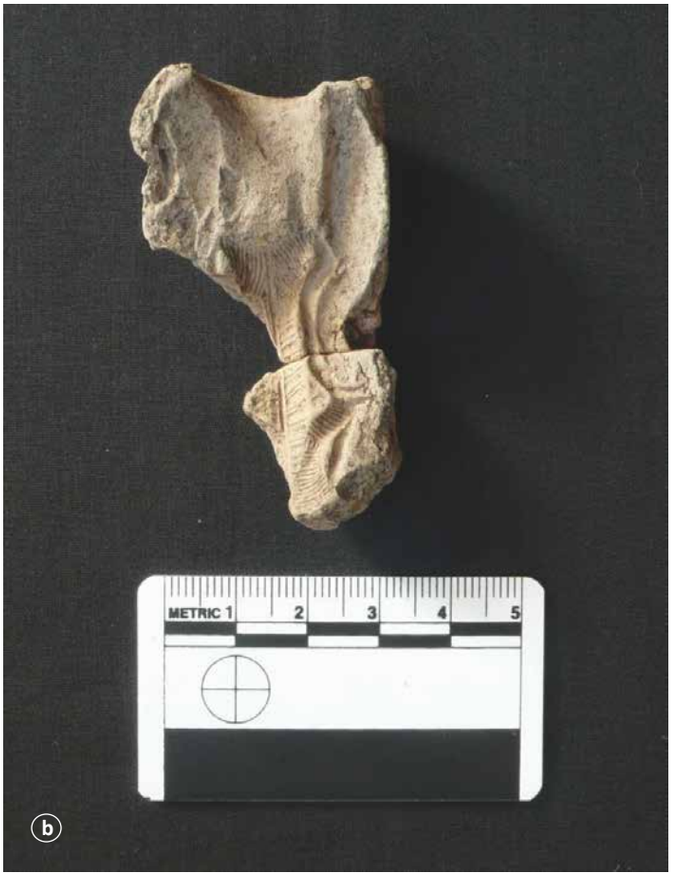


Illustration 6.13
(a) Dragon-mount mould (24/8200) and (b) fish-mount mould (24/8258)

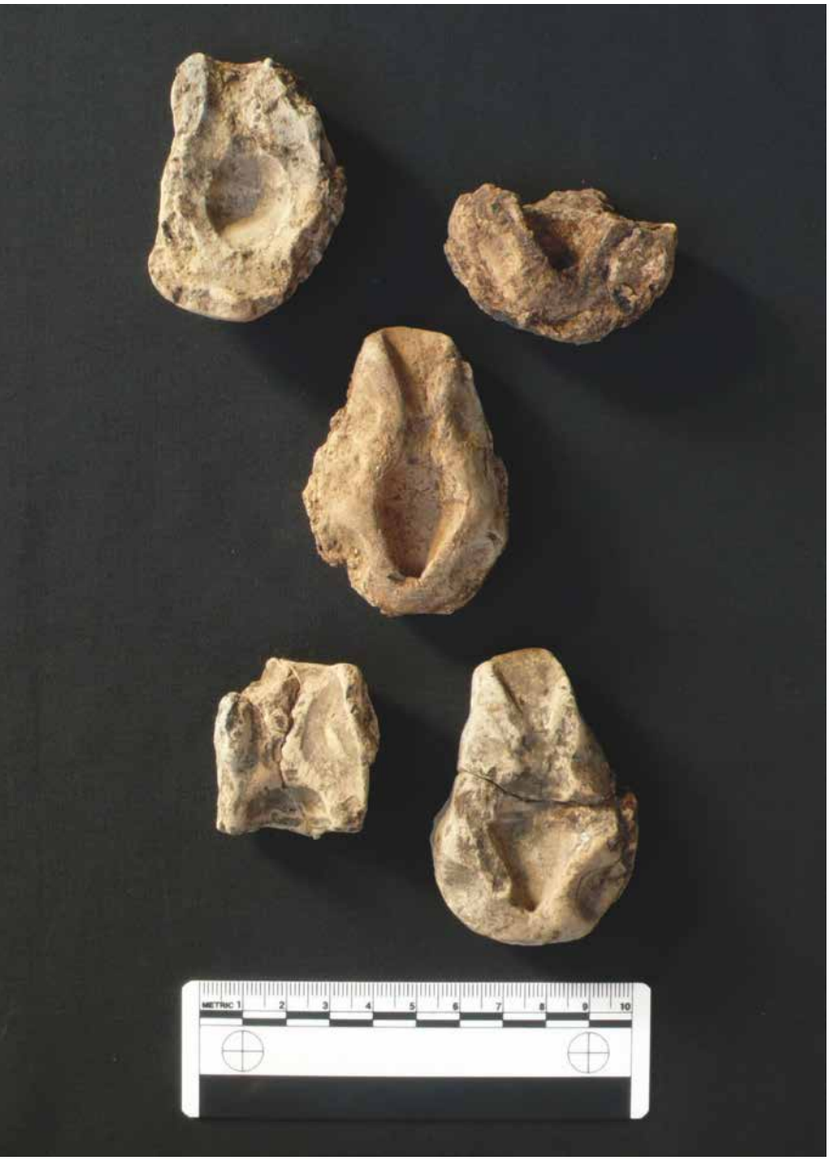


Illustration 6.14
Moulds of bulbous objects identified as weights. Type A: 24/8319; 8292; 8172; 8221 and 8195 (see also Illus D6.1.19 (right)). Type B (24/8194; 8152) (Illus D6.1.20)

3 metalworking terrace. In the excavation as a whole, Period 3 produced the most hammerscale (0.87kg), accounted for largely by a single deposit of 0.61kg from a pit (F288/C1667). The quantity and ratio of 1:10 spheroidal to flake hammerscale (*hs*) signals that fire-welding was taking place nearby. A total of *c* 20kg of smithing hearth bottoms (*shb*) including a notably large example were also identified (240mm (l) × 200mm (w) × 80mm (t); 3.1kg) (Spall & Mortimer Digest 6.9; OLA 6.2/4.3).

The iron-working debris was identified visually and sorted into type, weighed, measured where appropriate and as far as possible identified as belonging to one of the following categories: *dense slag* (*ds*); *ferruginous concretion with hammerscale* (*fc*); *flake or spheroidal hammerscale* (*hs*); *fuelash slag* (*fs*); *smithing hearth bottom* (*shb*); *tap slag* (*ts*); *tuyère* (*ty*); *undiagnostic ironworking slag* (*uss*); *vitrified furnace lining* (*vfl*). The Period 3 assemblage comprised *c* 20kg of *shb* and *c* 26kg of *ds*, some of which is likely to represent shattered *shb* along with 56kg of *uss*. A notably large *shb* was recorded measuring 240mm (l) × 200mm (w) × 80mm (t) and weighing 3.1kg. The cake may represent a large smelting furnace base or indicate that large objects were being smithed. Comparison of the mean mass and dimensions of all Period 3 cakes with those recorded on other early medieval sites indicates that the Tarbat cakes are significantly larger overall (Table 6.2).

Period 3 also produced the greatest quantity of fuelash slag (over 8.5kg). This material generally consisted of very lightweight vitrified material, predominantly with a high silica content where this could be discerned. However, the deposits that yielded quantities of the material could be mapped onto the primary

Table 6.2
Mean mass and diameter of slag cakes from early medieval sites in Britain

Site	Mean mass	Standard Dev.	Mean diam.	Standard Dev.
Tarbat n = 25	991g	747	132mm	35
Coppergate (McDonnell 1992, 475) n = 163	385g	304	95mm	30
Fishergate (McDonnell 1993, 1225) n = 46	460g	265	100mm	20
Wharram Percy (McDonnell 2000, 156) n = 22	369g	–	95mm	–
Brough of Birsay (McDonnell 1986b, 201) n = 21	158g	–	57mm	–

burning horizon, suggesting that its origin was mainly the site-wide conflagration that initiated Period 3 (see above).

Discussion

The spread of Period 3 hearths across the ruins of the Period 2 vellum complex testifies to a determined resumption of activity. The road was resurfaced, but not in an orderly way and the surface spilled out into the part-filled roadside ditches, petered out or was worn away in front of the bridge-head and was encroached upon by hearths at its northern end. There was something peremptory in these arrangements – little or no investment was expended in building structures in which to work. For purposes of control and vision it would be logical to locate metalworking hearths within a structure, but here the indications of shelter were negligible: a few asymmetric settings of post-holes, surfaces of slabs or trample into ashy silts. Whatever the conditions may have been, the Period 3 smiths worked outdoors.

A contrast between Periods 2 and 3 is also apparent in the products, the metalworkers' output now being directed to items of personal ornament and weights. There is continuity in technical competence but greater quantities of metal were being worked in larger crucibles. These commonly melted leaded bronze, but silver was also detected. A new range of objects, including different varieties of weights, oblong ingots and perhaps the base for ring silver were being produced in some quantity. Evidence for fire-gilding, sheet-metal working and separation of precious metals is also present. Ironworking, including smelting from ore, appears definitively for the first time. Glass was worked and also perhaps cannel coal fashioned into bangles (Digest 6.3).

Illustration 6.15
Stone ingot moulds, left to right: 24/4619; 4594, 4618; 3505
(top) crucible 24/4571

Evidence from monastic sites in Ireland and Scotland indicates that many underwent a similar shift in production during the ninth century. An interim overview of excavations at Clonmacnoise indicates a phase of reorganisation and expansion of the ninth to eleventh century (King 2009) to which increased production of small commodities in lignite and bone may perhaps be credited. Excavations in Armagh at Cathedral Hill and Scotch Street (Nos 39–41 and 50–6), have produced contrasting assemblages of fine metal- and glass-working of fifth- to ninth-century date and mass production of amber and lignite objects in the form of hundreds of amber chips and thousands of fragments of lignite (Ryan 1988, 40–2). Dating of the latter is frustratingly broad but may belong to the ninth to tenth century and

Illustration 6.16
(a) Oil-lamp mould (24/3503, 4617); (b) possible fire-gilding mortar (24/3502)

aligns with activity in contemporary urban workshops in Dublin or York. A similar shift was detected at Whithorn when Period III (*c* 845–1000) was characterised by 'a dramatic change in the material culture of the community' (Hill 1997, 185). Hill linked this to a shift in patronage possibly under Scandinavian influence and it followed evidence for fine metalworking in the previous phase. Crafts that appeared at the site during this period included shale and cannel coal-working, spinning and weaving and comb-making. Evidence for fine metalworking waned and silver apparently ceased to be worked.

The promulgation of weights in Britain and Ireland at the hands of the Vikings was one sign of the introduction of a new economy with a stronger emphasis on transferable currency in metal in which the revived site of Portmahomack was clearly a player (see also Chapter 5.8, p 225). The lead weight shows a connection with the Norse of Orkney in the late ninth century when the struggle for control of the Firths was intensifying (see below). The idiosyncratic shapes of acorns and doorknobs, presumably cast in bronze and reproduced in large numbers, may point to the existence of a different trade network, perhaps one that included Denmark.

The change from an ecclesiastical to a more commercial output is balanced by observed technical and social continuities. The apparatus is essentially the same as that used by the monastic metalworkers and there is little reason to suppose they are not the same people or their heirs in skill. Two clay moulds from fine metalworking bearing matrices of a fish and dragon recall the art of the cross-slabs and bring Pictish animals to mind. The design for a large brooch may have included a geometric glass stud in the tradition of the Period 2 glass studs. On the other hand, the ambience has greatly altered: the road resurfaced with pebbles, vellum-making gone and the iconic stone monuments of Period 2 have become the hard-core of Period 3. The craftsmen, and possibly even members of the monastic community, lost no time in putting their expertise at the service of clients having a very different ideological allegiance.

Illustration 6.17
Mould for a glass stud (24/5220). The stud would measure 12.5mm diameter

Redevelopment in Sector 1: the farmers

In Sector 1, the southern field, the working of precious metal seen in Period 2 was discontinued. However, the metalworkers' building (S1) remained standing and was recommissioned as a kiln barn. The well (S8) gradually went out of use. A small bag-shaped building (S5) was erected, also employed in processing grain.

Structure 1 (OLA 6.1/3.4.1)

The modifications that were applied to S1 in Period 3 mainly concerned the insertion of an upper floor and a new heating system (Illus 6.19). The single posts on pads at the east end (E1–8) were replaced with double posts, of which the outer was a buttress post angled to resist lateral thrust outwards (see Chapter 5.9, Table 5.9.1 on p 237 for details). The buttress posts were set between 100mm and 260mm deep. Of the original four posts at the west end, W1 and W2 were replaced, but without buttresses, and W3 and W4 either left in situ or removed as redundant. However six new posts were added, W5–8, W10 and W1. Of these, W6 and W7 were uprights, set deep at 650mm. W5 was a buttress to W6 and W8 was a buttress to W7, always resisting outward thrust. W10 was a buttress post supporting post W1. W11 contained two posts: an upright and a buttress, so it is possible that it bore or shared the load for W2. The

Illustration 6.18
The smiths' toolkit: iron blade (24/6591), hammer head (14/2520), punches (14/1259; 24/537) and files (24/4288; 14/4311)

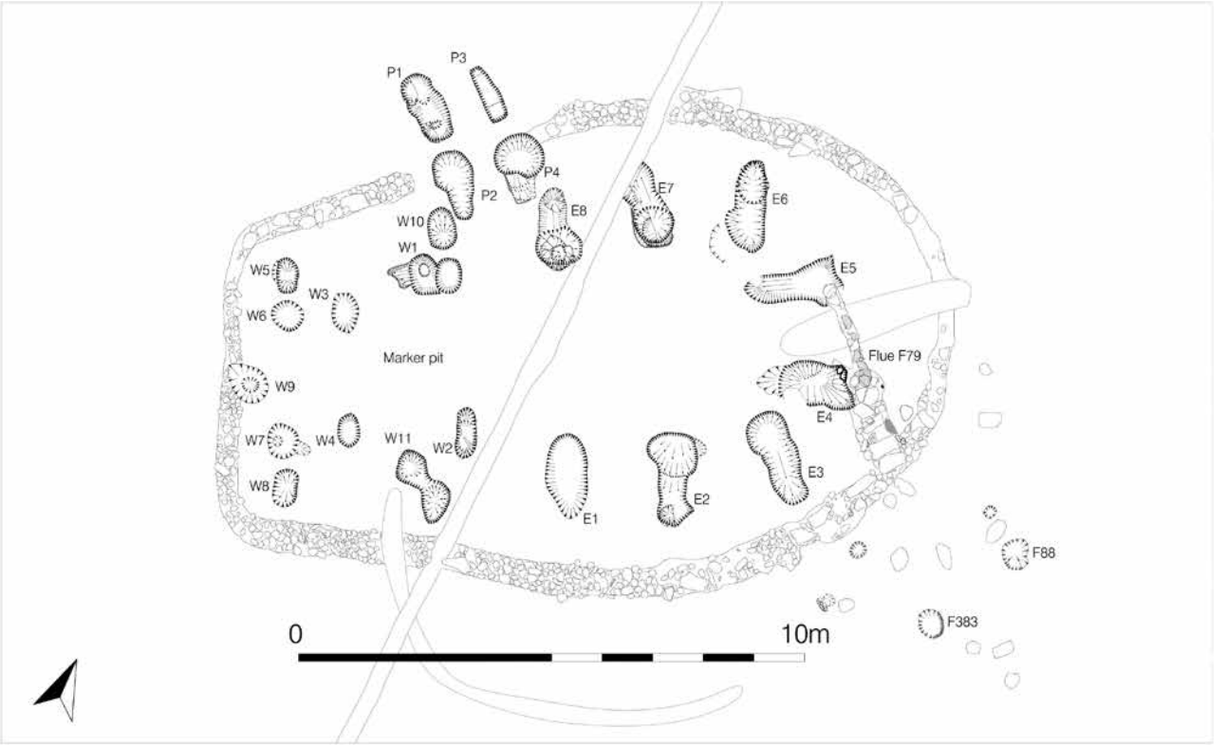
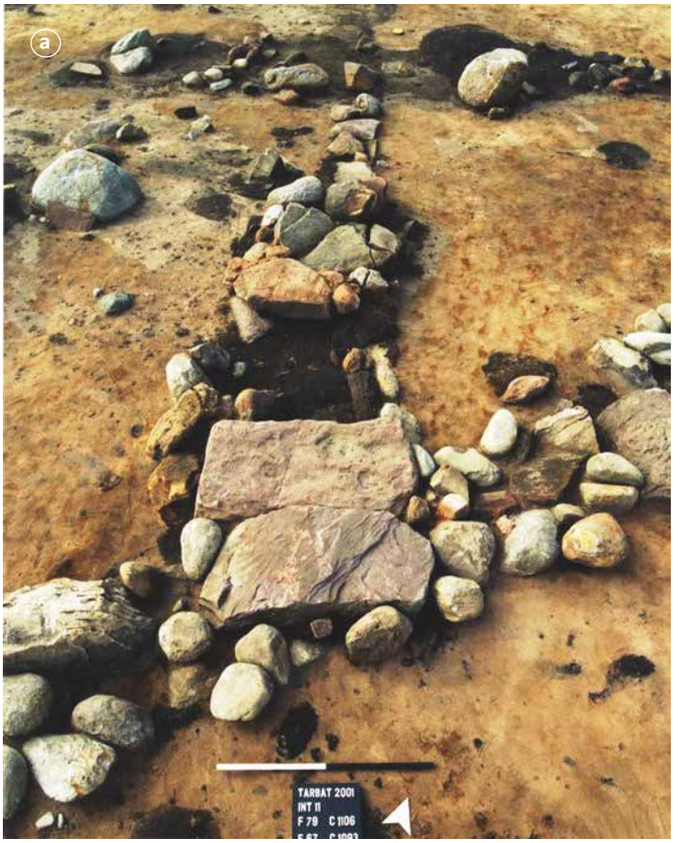


Illustration 6.19
Plan of S1 in Period 3, showing post-pits, flue (F79) and post array at stoke end of flue (F88, F383)



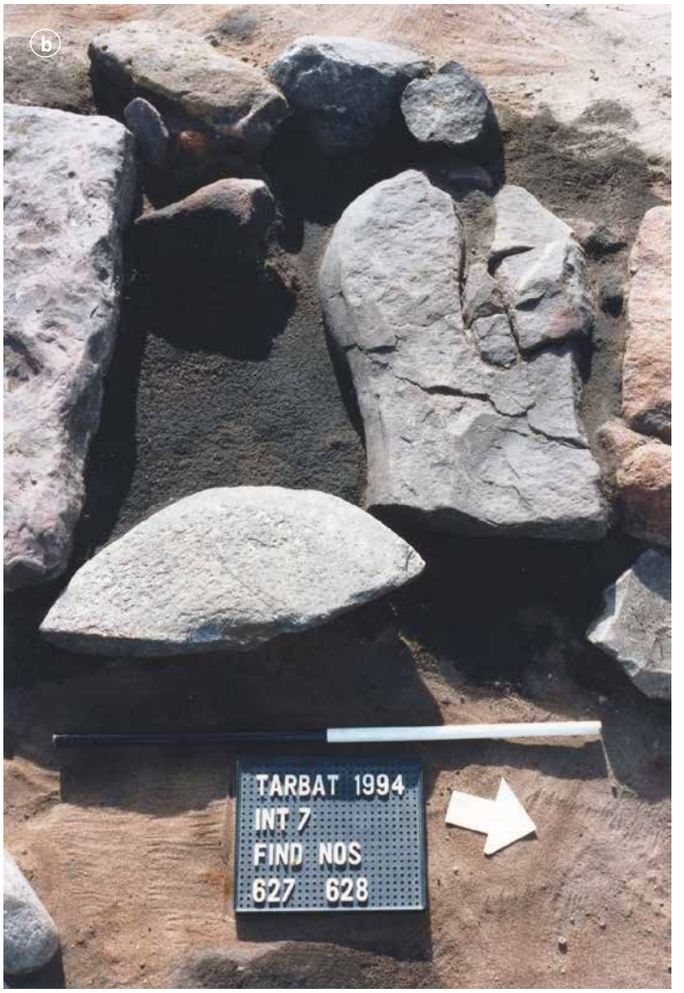


Illustration 6.20
Flue F79 (a) the flue (b) rotary quern incorporated into the make-up

buttress posts were angled between sixty and seventy degrees and set between 500mm and 650mm deep. The four posts at the entrance (P1–4) were also replaced, the new arrangements including buttresses for the two outer posts (P1, P2), also angled to resist thrust pushing outwards. These provisions suggest that there was a requirement to insert an upper floor, one expected to bear the greatest load at the west end.

Flue

The flue (F79) was first identified as a linear channel lined with and covered by large sandstone slabs, with an open continuation running NNW for a further 1.80m, making the full extent of this channel just under 4m (Illus 6.19). The covered section proved to be *c* 0.30m in depth and made of capstones supported by lining stones, becoming more fragmented to the north and displaying some evidence for burning. A number of post-holes clustered around the mouth of the flue, suggesting a covered area to protect the stoke-hole and shelter a fuel store (eg F88, F383).

The earliest fill within the flue incorporated components of pale-coloured ash and charcoal and is likely to represent a deposit accumulating during its life. The feature became filled with collapsing stone elements and then with dark brown silty sand, charcoal and clay. An iron nail and fragmentary animal bone was recovered from secondary contexts within the flue, and a fragmentary rotary quern (627) was reused within the make-up of the flue cover. Radiocarbon dating of three carbonised barley grains produced a calibrated date of AD 1020–1210 (95%) (GU-15019) signalling the end of the life of the feature and possibly the structure itself within this span.

A large quantity of animal bone was associated with S1 and S3, its sister building immediately north (see Illus 5.7.5). Because of the emphatic focus of this material on the hearth it was credited to Period 2 activities, especially the stacking of bone needed for fuel by the metalworkers, but it is not excluded that animal bone was also exploited in Period 3 (see Chapter 5.8, p 223).

Prompted by its flue and upper floor, the preferred interpretation for S1 in Period 3 is that of a kiln barn (Fenton 1999, 100; Fenton & Walker 1981, 138; the original suggestion for S1 was owed to David Clarke). As in its previous form, a timber frame supports the roof, and a stone wall revets the inner face

of a turf jacket (Chapter 5.9, p 239). On the upper floors, grain would be stored at the west end and spread out for drying or malting at the east end, warmed by the flue (Illus 6.20). Suggestive similarities in recent practice encourage this interpretation, as in the use of a round-ended kiln barn with dryer and flue on Uist, described by Donald MacEachen to Donald MacDonald in 1974 (Macdonald 1993). According to this account, the curved flue (*sùil*) was provided with a blocking stone (*ceallach*) to prevent a spark carrying to the dried grain. The fuel was peat, and once the fire got going, lumps of turf could be used. The load (*brat*) was threshed inside the warm barn and placed as ears on a drying platform made of sticks and straw (*traghaid*). The owner of the load watched it all night and then threshed it again before taking the grain to the mill and giving place to the next farmer at the kiln barn (ibid).

Structure 8

The adjacent S8, a well, was also remodelled in Period 3 (Illus 6.21). A stone slab blocking F424 was inserted between the main bowl (F36) and the side channel, and a concentration of red sandstone slabs was installed on the southern side. The resulting superficial resemblance to a grain dryer (as Kiln 2 at Inchmarnock; Lowe 2008, Plate 8.7, Fig 8.17, 242, 244), was investigated. It was noted that 'a very black discontinuous layer of desiccated planks was visible in stripes orientated approximately N–S across the feature horizontally' over the disused well (OLA 6.6.1, 51). However there were no signs of burning, or records of burned grain from flotation, and the black layers were probably turf rather than carbonisation. The modification of the structure was probably prompted by the silting up of the main bowl of the Period 2 well, following the decay of its original plank lining. Our verdict is that the well was modified, then continued in use up to the point where it failed to give water.

Structure 5 (OLA 6.1/3.4.1)

Situated at the west end of Sector 1 (cutting S12), S5 consisted of a ditch that was approximately bag-shaped in plan, enclosing a set of five pits surrounding a hearth (F13) (Illus 6.22). Survival was poor; there were no stones in the perimeter trench (F3), but there was stone packing in pits F11, F14 and F16, thus encouraging their symmetrical restoration as a set of six structural post-pits supporting vertical posts. The central hearth was bath-shaped in plan and had a gently sloping concave profile

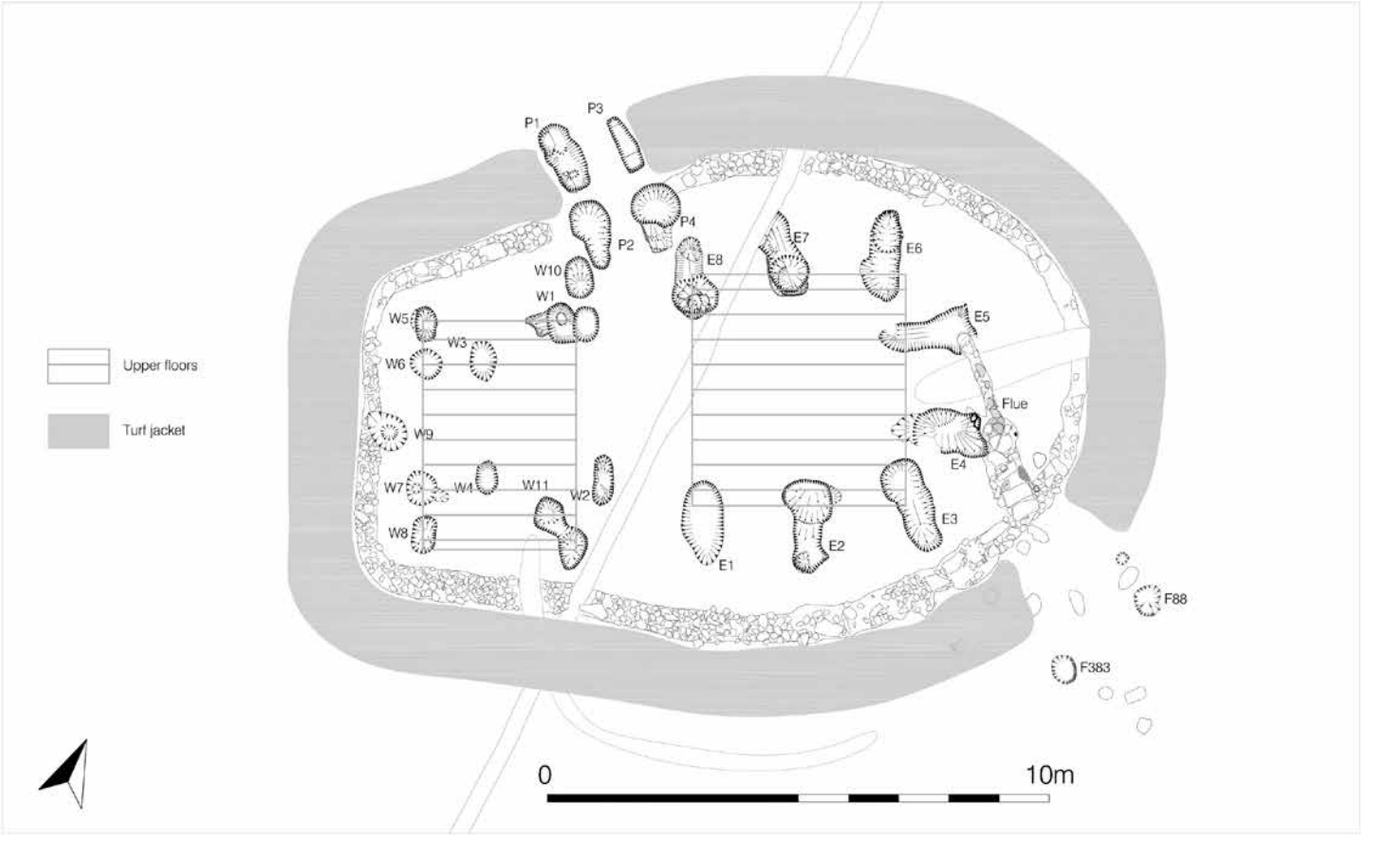


Illustration 6.21
Hypothetical reconstruction of S1 in Period 3, with upper floors for drying (right) and storing grain (left)

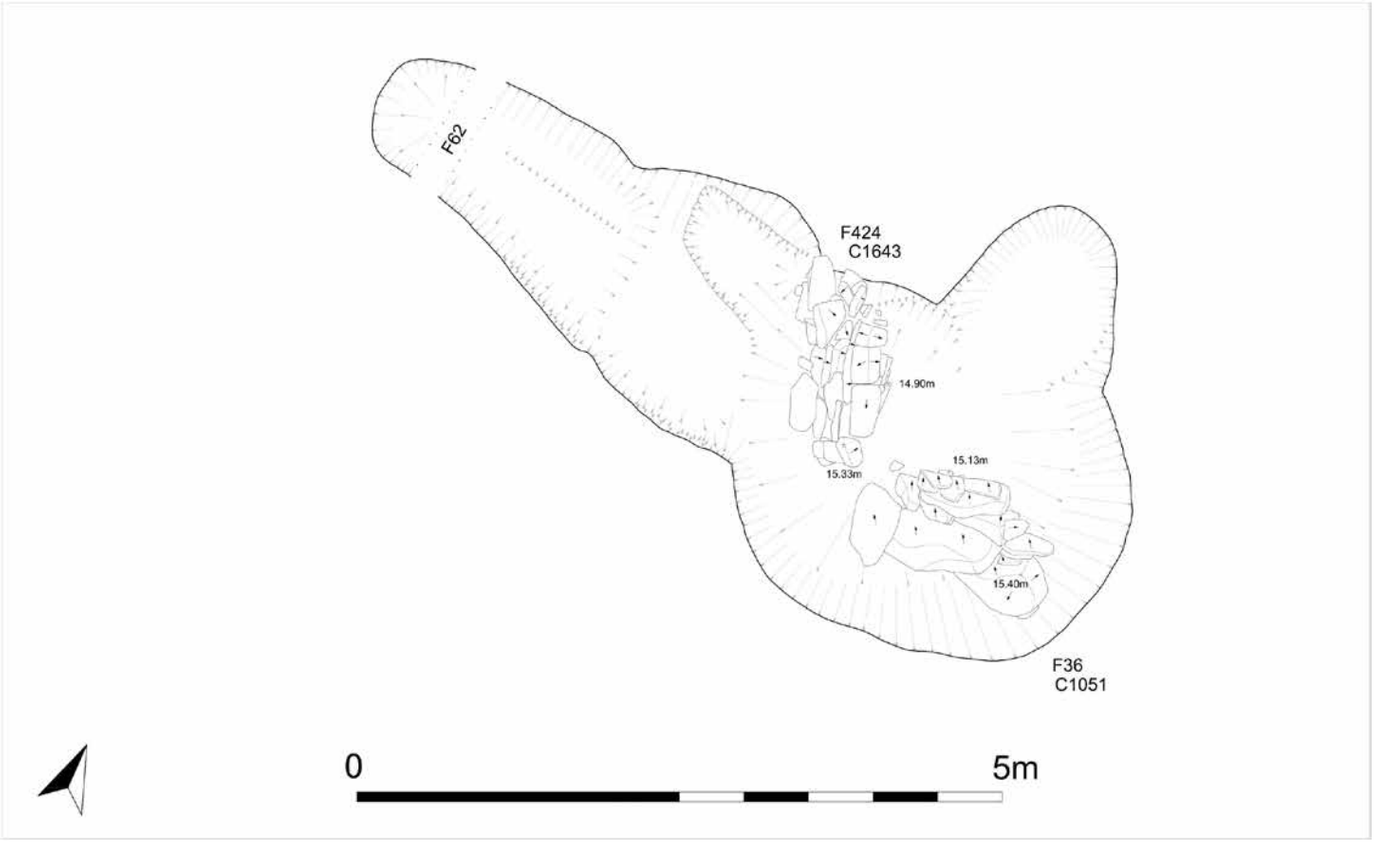


Illustration 6.22
Plan of S8 in Period 3

filled with a highly variable charcoal-rich sandy silt. Towards the base of the hearth were a number of horizontal burnt sandstone slabs sufficient to suggest a stone-lined component. The sediment was most likely burnt peat, and included a little charcoal and charred ?heather root/basal twig, charred heather flowers, some small barley and oat grains and a few wild radish (*Raphanus raphanistrum*) pod segments, the last a cornfield weed contaminant not easily winnowed or sieved from the crop (Digest 7.4). The deposit was sampled from the profile and a charred grain from flotation returned an AMS date of AD 680–900 (95%) (GU-15017).

The ditch (F3) had a broad, shallow concave profile up to 1.8m wide and 0.50m deep which curved from east to west turning slowly north to an 'elbow' at which point the orientation changed to NE–SW before disappearing beyond the eastern limit of Int 25. Its course in the damaged north-east area remained uncertain. The feature was filled initially with windblown sand in which the ancient (charred) remains comprised traces of barley grains and ?heather root/basal twig fragments. This was followed by a slump containing scraps of charcoal, some heather and traces of barley grains, one of which returned an AMS date of AD 890–1030 (95%) (GU-15018). A phase of burning came next, yielding records of oak charcoal, hazel and heather. The presence of charred root/rhizome in the two samples and of sedge nutlets in one of them perhaps points to an origin in burned surface-cut turves. This was followed by deposits interpreted as originating from the erosion of a bank. They included possible burnt peat, possible charred seaweed, heather and barley grains. The latest layers also contained oak charcoal,?heather root/basal twig fragments and barley grains.

The persistent presence of grain indicates that cereals (barley) were being processed within the building. The remains of heather and turf, and the shape of the ground plan, insofar as we have it, are probably adequate to propose a bag-shaped turf building with a heather thatched roof supported by at least six posts. Without stones, half a metre deep and three times the width of that in S1, the ditch does not suggest a foundation or revetment for a turf wall. The 'ditch' would be more credible as a walkway worn by load carriers between a turf windbreak and the fire. The large hearth, post-holes and burnt grain suggests an original grain-drying function. Two radiocarbon dates, one from the hearth and one from the perimeter ditch declare the building active in AD 680–900 and still receiving detritus in AD 890–1030, broadly conforming to Period 3.

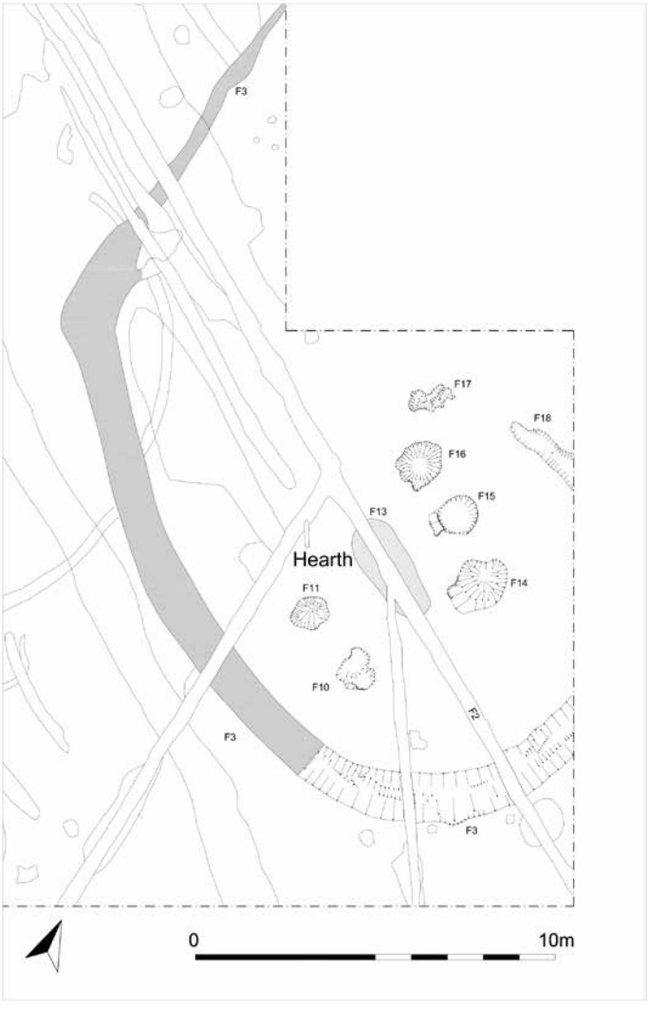


Illustration 6.23
Plan of S5, possibly a grain-drying kiln

Doubtful structures

Structure 2

S2 was defined at Horizon 2 as a series of discontinuous linear features that appeared to form a sub-rectangular enclosure (Illus 3.2). It cut through the S1 perimeter wall in two discrete places, and for this reason was interpreted as belonging to a structure positioned partly over the remains of S1 following its abandonment. Excavation and subsequent study lends no support to S2 having been structural.

Structure 6

S6 was defined at Horizon 2 as a rectilinear gulley forming an elongated U-shaped enclosure of three lengths, measuring 14.5m (south), 8.4m (west) and 8.0m (north) (Illus 3.2). The feature was cut by a Period 3 ditch F330, traversed by two Period 4 furrows and a Period 5 field drain. A length of the southern arm was sample excavated where the feature proved to be a shallow gulley, 0.15m deep with a U-shaped profile and a single backfill of dark reddish-brown silty sand. No evidence for posts or stakes was recorded nor any silting and no finds were recovered.

The second enclosure ditch in Period 3 (OLA 6.2/3.4.2)

A study of the four excavated segments of the structure of the second enclosure (S16, F158, F132) concluded that it was constructed as a bank and ditch in Period 2. The bank might have carried a hedge and the ditch contained standing water with dung beetles providing circumstantial evidence for extensive grazing (Chapter 5.5, p 186). In Period 3 it become choked with vegetation, but still constituted a barrier. The organic debris consisted mainly of pieces of alder and willow probably from trees growing along the edge of the ditch and perhaps in a hedge line on the bank (ibid). Among the plants represented in the backfill were weed seeds diagnostic of arable cultivation, implying a change to cereal production. A radiocarbon date on willow twigs in the latest organic fill shows that the ditch had finally ceased to function before 940.

Subsidiary ditches (Illus 6.23)

Adjacent to the enclosure ditch and the remodelled S1, two short ditches were identified as belonging to Period 3 (F18 and F165). F18 was first identified as a clear anomaly in the magnetometer survey due to its charcoal-rich fills. The feature was subsequently mapped at Horizon 2 as a possible oven, due to the charcoal-rich, black final backfill adjacent to a hard pink boulder clay dump. Upon excavation it was established that the original feature consisted of a length of ditch oriented broadly N–S measuring *c* 12.5m E–W by *c* 2.0m. F18 was assigned to Period 3 activity since it cut partially backfilled Period 2 ditch F154 and F196 and radiocarbon dating of charcoal from a late backfill (C1143) returned a date of AD 780–1020 (95%) (O-9662).

F165 was identified at Horizon 2 as a sinuous ditch oriented broadly NE–SW running from close to the enclosure ditch northwards through Int 11 and reappearing within the southernmost limit of Int 24 (F417), in turn disappearing beyond the western limit of the intervention (Illus 6.1). It thus represents a ditch in excess of 40m long. The absence of pottery from the intensively sampled F165 implied a date in Period 3, since Period 4 is the first ceramic phase, with a significant distribution of medieval pottery. The juxtaposition of F18 and F165 with the southern edge of enclosure ditch F158 and F132 suggests that they would have drained excess water towards the valley.

Period 3 on the hill

In the part of the cemetery sampled within the church of St Colman's, burial was continuous over Periods 2 and 3 without a notable change in ritual. Stratigraphy and radiocarbon suggested that at least seventeen (out of fifty-eight) burials could be earmarked as belonging to Period 3 (see Chapter 5.2, and Table 6.3 below). It is argued in Chapter 5.2 (p 106) that although burial

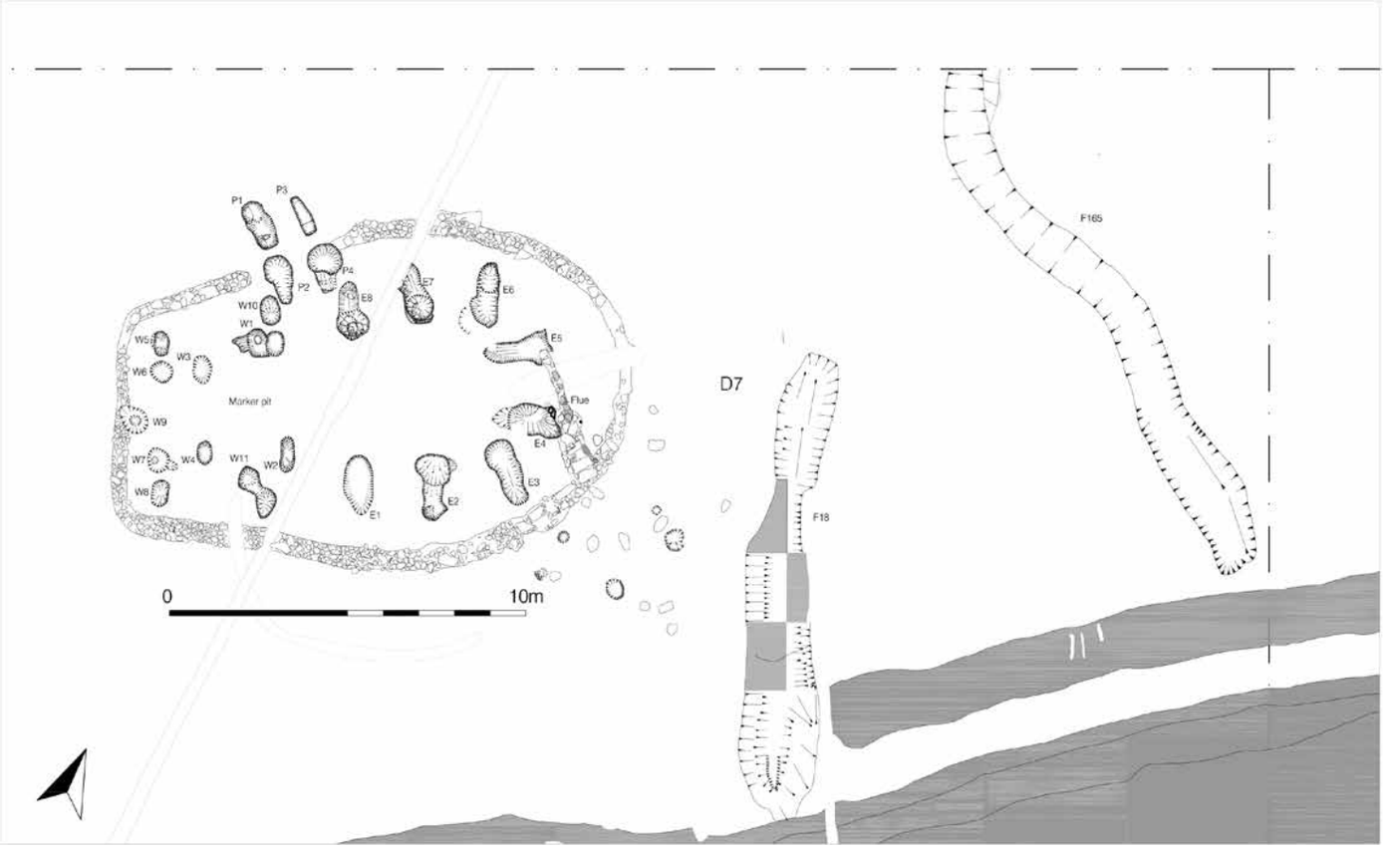


Illustration 6.24
Plan of S1 with ditches F18 and F165

continued after the raid, conformity to the cemetery structure was most evident in the ninth century and had been lost by the eleventh. The head-box burial rite continued to Burials 136 and 111, which were tenth or eleventh century in date. Burial 147 (AD 720–960), an immigrant from the west, introduced the burial rite of a wicker bier. The group of seventeen burials, if it is a group, includes four immigrants, and eight of the total of fifteen persons (47%) that had suffered fractures out of the whole Period 2/3 population (Table 6.3). Burials 152 and 158 had both suffered blade wounds. Burial 152 had been attacked with sword blows to the back of the head and died; Burial 158 was attacked in the face with a similar weapon, but survived (Chapter 5.2, p 119). Both conformed to the orientation of the western row. Our study suggests that burial continued in the monastic cemetery into the ninth century, after which it became spasmodic and lost its orderly rows, although the head-box ritual survived till the end. The implication is that burials broadly kept pace with the intensity of activity in the metal workshops of Sector 2, which is also thought to be losing its energy by the later ninth century. This strengthens the links between the Period 2 monks and the Period 3 metalworkers.

Burial 117, another male who died of blade wounds, is dated very late at 1150–1270 and so might have been buried within the newly erected Church 2 and is assigned to Period 4 (p 290).

Archaeological story: ninth to eleventh century

After the raid, recovery was rapid in Sector 2, a metalworking industry taking the place of the butchers and vellum makers. The artisans seem likely to be the same or closely related to those previously making ecclesiastical equipment in Sector 1. The new products, however, are pins, brooches, buckles and copper-alloy weights, implying a trading place. There were contacts with the northern isles (as indicated by parallels from Birsay) but the assemblage is not markedly Pictish, Scottish or Norse. The typological date of the crucibles, the stone carving and other objects, together with the stratified radiocarbon dates gives this industry a start in the late eighth century and suggest that it has faded before AD 900 (Period 3A). To the south in Sector 1, at the same time, there is the making of a farm in which the growing of grain predominates. Here a barn (the converted S1), a well (S8) and a dryer (S5) endure to the end of the ninth century. After 900 the old monastic infrastructure finally ceases to function: the ditches are choked with vegetation, the pool has become dryland and a cow burial was dug through the metal workshop

Table 6.3
Burials that may belong to Period 3

Burial	Trauma	Burial rite	Isotopes	Radiocarbon
44				
45		HS WSW–ENE		
47		WSW–ENE		
111			Immigrant?	
123	broken finger			
124				
125	fractured tibia and fibulae (healed)	HB		
136/156			Immigrants?	970–1040
142	broken finger			
145	broken clavicle			
147		wicker burial	fish-eating Immigrant from west	720–960
152	three blade wounds (fatal)	HS		780–1000
157		HS		
158	broken ribs blade wound (healed)			680–900
164	fractured ribs	HB		
176	fracture			

(Illus 6.24). The flue in S1 might have continued to function as indicated by a single late date of 1020–1210.

The cemetery continued to serve the community while the metalworking and trading venture thrived, through the ninth century. They suffer disproportionately from injury, and the conventional rites are observed. This includes the orientation within the rows, implying that the cemetery structure persisted and perhaps that a church still stood. Thereafter burials at the old site toll the passing of the years, but in diminishing numbers. By the time the hoard of silver coins and arm rings is buried in AD 1000, there would seem to be little happening at Portmahomack other than the occasional funeral.

Illustration 6.25
Cow burial F304

Context: the peninsula and the Firthlands

The theatre in which these artisans played their part has been described by the Glasgow historian Dauvit Broun as 'impenetrably obscure' (2005, 41–2), and in some ways it is a much darker dark age than the age of Columba and Adomnán, ie the sixth to eighth century, that preceded it. We have some exiguous archaeology and some difficult documentary history to draw on, the first giving the impression of a sea mist punctuated by the occasional stone monument, and the second of Scots, Norsemen and to a vanishing extent the Picts, locked in a struggle of brutal intransigence.

It is not unlikely that a strong Norse interest in the peninsula followed the Portmahomack raid even if Vikings were not responsible for it. The monuments at Nigg, Shandwick and Hilton of Cadboll were not targeted. Of forty-eight place-names on the peninsula noted by Watson, six are pre-ninth century (Pictish), six are Norse and the remainder Gaelic (Scots) (Illus 6.25). Of the six Norse names, Cadboll and Shandwick are landing places

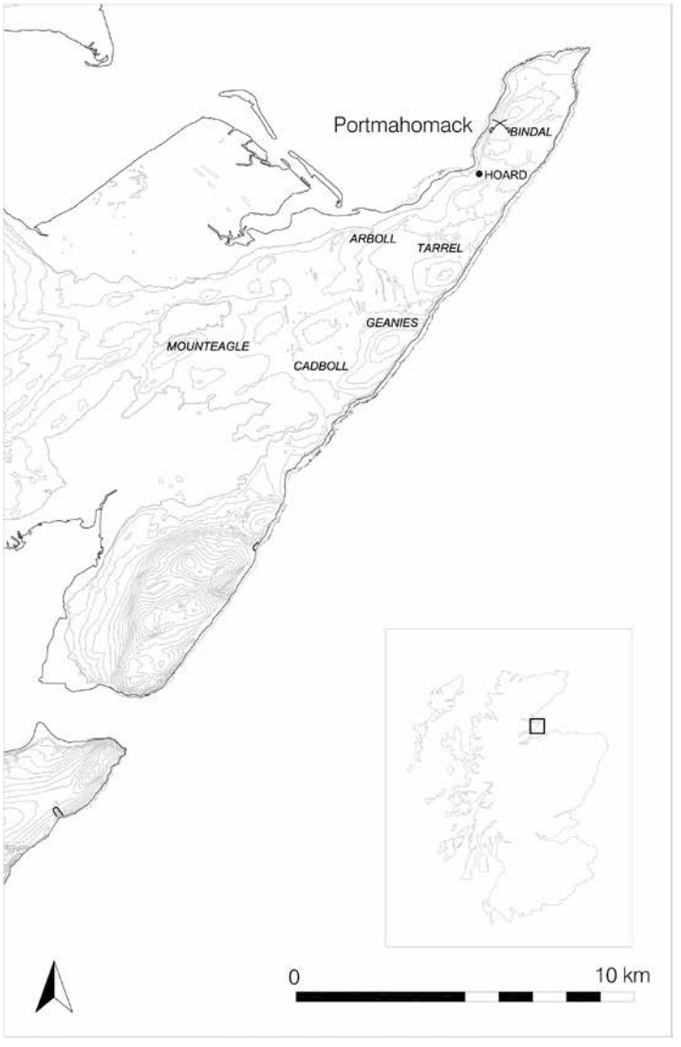


Illustration 6.26
Norse place-names on the Tarbat peninsula

and Mounteagle (and perhaps Loch Eye) may refer to Norse *eith* (isthmus) (Digest D8). Bindal, Geanies and Arbol are all prime farmland today. A Norse break-up of the existing monastic estate seems highly probable. There was a battle at 'Torfness' in 1035 (see below) and a battlefield site is remembered in the place-name Blàr 'a chath a few miles north of Portmahomack.

Norse presence on the peninsula is otherwise poorly documented. No steatite or Norse objects or ornament, as known in the northern isles, were noted in the extensive excavations at Portmahomack. The silver hoard of the Viking period previously noted (p 261) was discovered in 1889 while digging a grave near the east gate of the churchyard, possibly having been hidden within a buried stone wall, 'at least six feet below the ground surface' (Miller & McLeod 1889; Grieg 1940, 109). When discovered, the hoard consisted of two silver penannular armlets and thirteen coins. A further part of this hoard was apparently found in 1892, when digging further graves in the area. The finds were sent to the National Museum of Antiquities of Scotland. Graham-Campbell (1995, 143–4) dates the deposition of the hoard to *c* AD 990–1000. The surviving items are: Four silver penannular armlets (IL 272–5); a silver penny of Edgar (959–975) (IL 276) and five silver pennies of Louis le Bewgue (877–879) (IL 277–81). In 1889 ten pennies of Louis le Bewgue were reported to have been found, as well as one illegible silver penny and another that had broken into pieces (Harden in OLA 5.1, Stage 1) (Illus 6.26). But like the weights from Sector 2, these objects do speak of an active trade network in the Firthlands in the ninth to eleventh century.

The Vikings undoubtedly encountered monastic establishments elsewhere in the broader region. We have yet to find them, but it seems reasonable to anticipate them in places that feature the remains of monumental cross-slabs, box shrines or sarcophagi. On this basis, we could list Reay, Dunbeath, Skinnet (Halkirk), Kincardine, Rosemarkie, Burghead, Kinnedar and Wester Delnies as prime candidates for Portmahomack's sister monasteries in operation into the ninth century. Some of these were no doubt attacked, as at Kinnedar where the sculpture is 'markedly smashed up' (Henderson & Henderson 2004, 146, 212). Others, indicated at present only by a cross-slab, could be put on the reserve list: Clyne Kirkton, Collieburn, Kintradwell, Farr, Lothbeg, Creich, Strathy, Strathnaver, Edderton, Achareidh, Altyre, Birnie and Forres (Illus 6.27; Henderson & Henderson 2004, 196, 212; Carver 2008b, 18–20).

It may be that some of these places continued to develop after the eighth century. For the Hendersons: 'The patently Pictish characteristics of the free standing crosses, and other symbol-less monuments, are evidence for a continuing and developing Pictish cultural input through to at least the end of the ninth century' (2004, 194); and 'Their erection probably signalled the period of the institutional amalgamation of the Picts and the Scots' (ibid, 191). The authors urge the case that the free-standing crosses carrying martial themes were among the latest products of the Pictish carvers (Henderson & Henderson 2004, 190–4). Constantine King of Picts (died 820) was commemorated on a free-standing cross at Dupplin (Forsyth 1995), and his northern interests have lately been emphasised (see below). Sueno's stone at Forres, depicting captives lining up to be decapitated, seems to be an extreme expression of the martial theme. Traditionally this monument is an icon of ethnic cleansing, and depicts real local events, without being too certain as to who are the victims and who the oppressors. Sellar (1993) proposes a celebration of the extermination of Picts by Scots, for whom victories were measured in severed heads. The Hendersons find it less exotic and more learned. The vinescroll links it artistically with Hilton and Portmahomack (2004, 55), and the theme is more likely to have been 'a conscious cultural gesture by a ninth-century patron fresh from a visit to Rome, who wanted the equivalent of the columns of Trajan and Marcus Aurelius on his doorstep' rather than 'regarding the camp scenes, parades and massacres as an intelligible act of local reportage' (ibid, 136).

Nevertheless, it is hard to expunge the impression that an extended three-way clash between Picts, Scots and Norse forms the misty political backdrop to Tarbat in the ninth to eleventh century, even if it is also hard to document it with precision. A

Illustration 6.27
Hoard of coins and ring silver deposited *c* AD 1000 and rediscovered in 1889 in Portmahomack churchyard

'pagan grave' at Dunrobin contained two oval brooches, an iron axe and a possible spear socket, and a single oval brooch was found at Ospidale (Batey 1993, 155). Two Hiberno-Norse ring-headed pins (without the rings) were found at Llanbryde four miles east of Elgin (*Medieval Archaeology* 45 (2001), 361) and another, also without its ring less than a mile away at Easter Coxton (*Medieval Archaeology* 46 (2002), 243). The most southerly Viking-type burial, that of Sigurd at Cyderhall, remains up to now in the realm of legend (see below).

Hoards buried in the ground may be taken as signs of unrest (Graham-Campbell 1995, 173–86; Graham-Campbell & Batey 1998, 227–38). The St Ninian's Isle hoard (Shetland), containing Pictish brooches and bowls found under the floor of the church, is thought to have been hidden from Viking raiders, and similar circumstances may have attended the Rogart brooches and the three penannular brooches found at Croy, together with two Anglo-Saxon coins pierced for suspension (Graham-Campbell 1995, 3). These should date to the earliest period of Norse intrusion in the ninth century. Later hoards are distinguished by their content: coins, silver rings and hack silver and have deposition dates in the tenth to eleventh century. Tarbat is the only one of this late group in the Moray Firth, the remainder being in Orkney or Shetland.

The documentary sources for the period have been recently reviewed by Alex Woolf, who has argued a case for moving Fortriu from the area of Angus to Speyside, taking its documentary luggage with it (2006; see below). The same author remarks: 'All the same we have been able to say almost nothing about the islands or the mainland north of Ardnamurchan in the west, or the Moray Firth in the east' (2007, 275). From England, by contrast, we have blow-by-blow accounts of the struggles between Wessex and the Danes from the ninth to the early tenth century, itemised in the *Anglo-Saxon Chronicle*. This struggle is described as a war, it involved the whole of south Britain and it lasted nearly half a century before England can be said to have existed as an independent nation. In our area, the documents we have are marred by being too late, as the *Orkneyinga Saga*, or too far away, as the *Annals of Ulster*, or too strange, as the *Prophecy of Berchán* (Hudson 1996; Woolf 2007, 225). But it can be accepted that by the ninth century Picts and Scots were engaged in the political brutality that would result in a Gaelic-speaking Scotland and Pictish dispossession (Wormald 1996). In the same century, the Norse emanated from Norway and first raided then settled the Northern Isles, Caithness and Sutherland. For over two hundred years, the Tarbat peninsula, and for that matter, the Black Isle, were frontier territories in a war as intense and crucial as that in Wessex. Archaeologically, there is every reason to support the view that at both ends of the island, the British were caught in the crossfire between two sets of ruthless incomers: Saxons and Danes in the south, Scots and Norse in the north.

Alfred Smyth (1984, 146) described the Norse process as 'a violent piratical phase as a prelude to more determined and

successful attempts at colonization'. These attempts were, however, limited geographically. By the eleventh century the Norse had penetrated, as place-names show, not much further south than Dingwall, where they had a *Thing* or assembly place. Following the lead given by Alex Woolf, we may take the references in texts to 'Fortriu' to apply to the Moray Firthlands, with some useful consequences (Woolf 2007, Chapter 1, 3). Constantine, who held the power in greater Pictland between AD 789 and 820, and was commemorated on the Dupplin Cross, was also a king of Fortriu, and must have died just after Portmahomack was raided. If the raid took place about AD 800, all-out war was not long in coming. In AD 839 (according to the AU) the heathens (ie the Vikings) won a battle against the men of Fortriu. Eóganán son of Óengus, Bran son of Óengus, Aed son of Boanta and others 'almost innumerable' fell there. This would have hit these Pictish families very hard, making space for a new aristocracy, particularly from the Gaels of Argyll. In AD 865, AU records the death of the chief Bishop of Fortriu, Tuathal mac Artgusso. In AD 866 'Amlaíb and Auisle went with the foreigners of Ireland and Alba [= Britain] to Fortriu, plundered the entire Pictish country and took away hostages from them'. This would have been another grievous depletion of the Pictish aristocracy. If Fortriu is to be located in the north, then Tarbat lies at its centre, and at the focal point of these events (Woolf 2007, 41–67). The men of Fortriu defeated the Norse in AD 906, but by the time Malcolm I arrived in AD 950, the place he came to was Moray, the sea settlement, and Fortriu is not mentioned again.

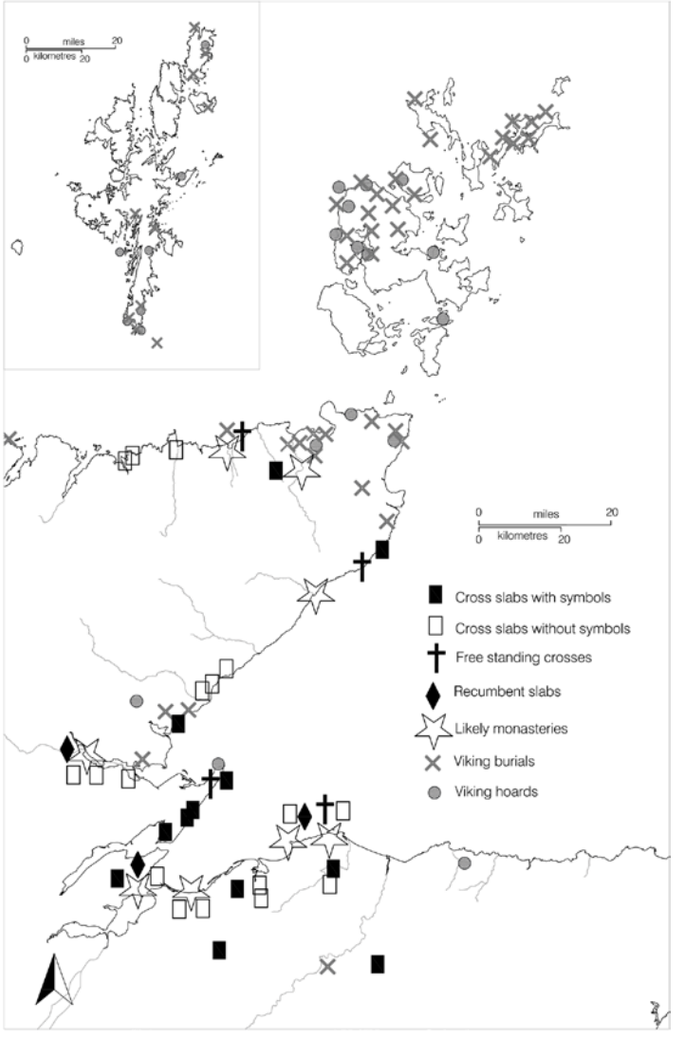


Illustration 6.28
Map showing likely locations of monastic sites in the Firthlands at the start of the ninth century

After Pictish power was broken at the end of the ninth century (Woolf 2007, 87ff), the Scottish men of Moray turned their attention to the Norse, and proved resilient in the task. Legend has it that the late ninth century Moray *Mormaer* Maél Brigte had the distinction of killing his enemy when he himself was already dead. He was worsted in battle by Sigurd the Mighty, who cut off his head and tied it by the hair to his saddle bow. However, on Sigurd's triumphant return north, the head bit him in the leg and gave him blood poisoning from which he never recovered. Sigurd is said to have been buried about AD 892, presumably in Sigurd's Mound (Syvardhoch), a name recorded in the thirteenth century for Sidera (now Cydera) on the Oykell Estuary near Dornoch.

The Norse first mention Tarbat, which they apparently knew as Torfness, in events relating to the years AD 891–4 [*OS7*]. Einar the Turfer 'was the first of men to find how to cut turf from the earth for fuel, in Torfness in Scotland'. He clearly was not, since the people of Portmahomack had already been using turf as fuel and building material for at least two hundred years (p 228). Einar, who died around AD 910, was said to have taken over 'the island territories'. He was 'tall and ugly and one-eyed, though still the most keen-sighted of men' (OS; Anderson 1922, 377). There is some implication here that Einar had control of Tarbat, if not of lands still further south.

Of Einar's successors, his son Thorfinn Skullsplitter and his grandson Sigurd the Stout seem to have kept a strong grip on the Moray Firth during the tenth century and into the eleventh century. Around AD 995 Sigurd the Stout was challenged in Caithness by Findlaech, father of Macbeth, who was defeated (with the unfair intervention of a magic banner). The compliment was no doubt returned, putting the men of Moray under pressure in their new homeland. These events must have had some reflection in major investments such as the 6.5m high Sueno's stone, assuming it cannot be dismissed as a scholarly conceit (see above). Who was beheading whom? With so many enemies, one is spoilt for choice; possibly the Norse did take a firth too far, led by a 'Sven', and met a savage resistance in Moray, as had an earlier Sigurd and Thorstein. Or perhaps the Picts were still able to mount a rebellion and were arraigned for collective punishment and a monumental reminder to survivors that they had been permanently dispossessed. Or perhaps the victims were the nearest kin to the Cenel Loairn among enemies, the nGabráin clan, who had tried, as they were to continue to do, to bring Moray into the control of the southern royal house (Sellar 1993; Jackson 1993; Aitchison 1999, 33–4). Or perhaps none of these things happened, but were nevertheless selected

by an eleventh-century ruler with power over the quarries and tradition in stone carving to be fossilised as preferred history.

In the early eleventh century we hear of 'Torfness' again, since a great sea battle took place there in about 1035. The victor was Thorfinn the Mighty, a Scotto-Norse whose parents were Sigurd the Stout and a daughter of the nGabráin. The Moray leader defeated at sea is named by the Orkney Saga as a certain *Karl Hundison*. The saga goes on to recount how Thorfinn the Mighty, a golden helmet on his head, a sword at his waist, and wielding a great spear in both hands, chased the defeated Scots deep into Scotland. He and his men 'went over hamlets and farms and burned everything, so that scarcely a hut was left standing. Those of the men whom they found, they killed, but the women and old people dragged themselves into woods and deserted places with wailings and lamentations' (*Orkneyinga Saga* 20).

Karl Hundason ('son-of-a-bitch') is thought to be none other than the character that Shakespeare knew as Macbeth, son of Findlaech and murderer of Duncan, who was active in the area from about 1030 until his death in 1057 (Oram 2004, 18, 89; Grant 2005, 98; Cowan 1993, 125). Barbara Crawford comments: 'The Tarbat Ness headland is likely to be *Torfness*, where Earl Thorfinn the Mighty met Karl Hundison [Macbeth?] in battle between 1030 and 1035 … The victory of the former allowed the consolidation of Norse settlement around the shores of the Dornoch and Cromarty Firths' (Crawford 1987, 73). It seems that by the early eleventh century, control of Easter Ross was in the hands of the Earls of Orkney, and it is not improbable that such control had from time to time already been exercised by Sigurd the Mighty in the ninth century (Fraser I A 1986). Moray leaders from Findlaech onwards obviously felt they had an ancestral claim on the territories to the north, as far as Caithness. But the frontier probably established by the Norse at the Beauly River is one that has endured on the map.

For all his bad press from Shakespeare and his predecessors, Macbeth was no usurper but could claim royal descent in Moray from his father Findlaech and from the line of Malcolm on his mother's side. Duncan, who became king of greater Scotland in 1034, was his second cousin. The battle off Tarbat was part of a wider campaign. Macbeth's eleven warships first attacked Thorfinn at Deerness, demanding tribute for Caithness. But Macbeth was defeated and had to swim for his life. Then he raised an army which included Welsh and Irish soldiers, but Thorfinn responded by mustering 'all the troops from Caithness, Sutherland and Ross', which implies that Ross was already under Norse control at the time (Aitchison 1999, 37, 56).

Macbeth supposedly murdered Duncan in a blacksmith's hut at Pitgaveny, near Elgin in 1040. He was to rule for seventeen years, and a case can be made that these years were happy and prosperous. He made a pilgrimage to Rome in 1050 as did Thorfinn the Mighty – E J Cowan remarking drily 'it is not recorded whether he booked passage with Macbeth' (1993, 128). In Rome, Macbeth famously distributed money with great freedom, and it is not inconceivable that both northern Scottish rulers by this time would think a papal blessing worthwhile – in the manner of getting recognition by the United Nations. Now that he was a monarch of the Scottish house, Macbeth and his lady gave their patronage to a monastery in Perthshire, on St Serf's Island in Loch Leven. In the eighth century, this monastery had had a link with Iona. Revived in the tenth century, it was a culdee establishment that maintained its cartulary in Gaelic (this has not survived, though a Latin summary has). This probably resembled the *Book of Deer*, a holy book with notes in the margin. From the mid-tenth century, St Serf's was dependent on St Andrews and it became Augustinian from 1150. Thus on St Serf's Island, the old world was connected to the new.

Armed therefore with new certainties from archaeology and semi-certainties from history, and old myth-making from Brechan to Shakespeare, we can paint an amateur picture of the darkest of the dark ages in the Moray Firth – the ninth to eleventh century. In the eighth century the area was not just the site of a few monasteries – it was a new Christian kingdom. Tarbat was a holy island, or nearly one, marked by huge cross-slabs, celebrating Pictish spiritual leaders, their names emblazoned in symbols in the Pictish manner. No doubt the incoming Gaelic-speaking nobility were already in the frame as preachers, warriors and wives, integrating with the Picts against a common enemy and emerging as the *Mormaers*. The monasteries were in contact with each other, with Ireland, with Northumbria, with England and with the continent; and where spiritual alliance went, commerce was not far behind. It cannot be doubted that this Christian European union of its day was at least partly what irritated the Scandinavians. Their first raids targeted Lindisfarne in AD 793 and Iona in AD 794. Portmahomack was probably another target of these years, no doubt because it was as important, spiritually and strategically, as these two. Its great monuments, symbolic of ideological restrictive practice, were thrown down and the monastic project went up in smoke. Thereafter, in a dozen skirmishes, the heirs of the churchmen clashed with the Norse. Their monks were murdered, their bishops were killed, their skulls were split. But the survivors at Portmahomack fought back in the best way possible: they put their shoulders to the turning wheel of the age, stopped carving and became suppliers of ornaments and weapons to the warring classes.

Sigurd and Thorfinn and their ilk never achieved their goal of opening the passage along the Great Glen as a short cut to their possessions in the Irish Sea. Just as Alfred, Æthelflæd and Edward the Elder fought back in England, so Finlay and Duncan and Macbeth fought back in Moray. To the victor the spoils: just as the south British lost much of their identity to the intrusive English, so the Picts, north Britons, lost most of their identity to the intrusive Scots. And the Tarbat peninsula, rich farmland, haven, beachhead, portage and frontier post must have changed hands a dozen times.

Chapter 7

Medieval Township (Period 4, *c* 1100–*c* 1600)

Introduction

The arrival of the Middle Ages at Portmahomack is marked by the building of a stone church, the first version of which is termed *Church 2* and dated here to the twelfth century (*Church 1* being assigned to the elusive Pictish church, Chapter 5.4). The church builders levelled the former Pictish cemetery, likely to have been derelict by then, and incorporated many of its grave markers into the fabric of the new building. The remains of cross-slabs A, B and C should have been visible lying in the churchyard. *Church 3* was Church 2 equipped with a chancel. *Church 4* was a relatively grand church with nave, sanctuary, belfry and crypt, founded in the thirteenth century and enduring until the Reformation in the late sixteenth century. The old monastic structures were cleared from Sector 1 and the area given over to ploughing from the thirteenth century. In addition to the growing of cereals, the Portmahomack community had access to a wide variety of meat and fish to support its subsistence. The areas of the former ninth- to eleventh-century workshops and the infilled pool in Sector 2 were intensively redeveloped, initially for domestic occupation in the thirteenth to fourteenth century and latterly (in the fifteenth to sixteenth century) for the working of iron. Thus the medieval settlement grew from a village to a township, while the church provided a burial place for its people and a theatre for their beliefs and challenges.

The sequence over the three Sectors

The period 1100–1600 at Portmahomack has been provided with a chronological framework by stratigraphy, radiocarbon dates, coins and pottery (see Table 7.1). This information suggests a division into three phases. *Period 4A*, the twelfth century, is evident only in Sector 4 where a simple rectangular stone church was constructed (Church 2), and eventually provided with a chancel (Church 3). Some dating support for the building was given by radiocarbon dates on a bell-casting pit (AD 1040–1260) and the single burial (Burial 117, AD 1150–1270).

Period 4B (thirteenth to fourteenth century) saw Church 2/3 replaced by a new building (Church 4), lengthened at each end and provided with an eastern crypt. A thirteenth-century aquamanile from Yorkshire (perhaps in use in Church 2), a chafing dish and a small quantity of Scottish Redware confirm activity in the thirteenth to fifteenth century (Digest 6.18). After an interval of intensive ceremonial use, burial returned to the nave: three of the stratigraphically earliest burials gave dates between the late thirteenth and early fifteenth century. Two burials with grave covers, one decorated and dating to about 1350 were found in situ end-on to the east wall of Church 4, showing that the crypt must have been in existence by then. As Church 4 was developing on the hill, a residential village took shape on the site of the former workshops and dried-up pool of Sector 2. A small group of imported Whiteware suggests some activity of twelfth-century date, but the greater part of the assemblage is Scottish Redware indicating activity of early thirteenth- to fifteenth/sixteenth-century date (Hall in Digest 6.18). The same Scottish Redware was found in the rig and furrow that now overran the filled in ditches in Sector 1, suggesting that the agricultural initiative also belongs to the thirteenth to fourteenth century, our Period 4B.

During *Period 4C*, from the fifteenth into the sixteenth century, there was a fire that scorched stones within the church, followed by a refurbishment that included the addition of a barrel vault to the crypt. Burial intensified, with a focus on the east end around the entrance to the crypt; the four radiocarbon dates, broadened by marine reservoir correction, gave spans from the mid-fifteenth to the early seventeenth century. Some burials were interred over the vault of the crypt. Burial should have terminated in about 1580 when the edicts of the Reformation vetoed the digging of further graves in the nave, apart from those of infants. In Sector 2, a large-scale industrial enterprise of iron smelters, smiths and tinkers arose on the site of the village, with a repertoire that included swords. This lively township was abandoned and ploughed over before post-medieval objects became commonplace.

The numismatic profile from Sectors 1, 2 and 3, although almost exclusively recovered from ploughsoil, echoes a three-part pattern. The assemblage contained no coins minted before the beginning of the thirteenth century: the sequence began with a group of pennies and halfpennies of the thirteenth to fourteenth century. There was a notable gap after *c* 1350 until *c* 1450 when base metal Scottish issues indicate a resumption of economic activity of late fifteenth- to early sixteenth-century date (*Holmes* in Digest 6.14).

Some chronological context for these events can be gleaned from the exiguous medieval records of the region. It is highly likely that the Pictish monastery was remembered in the Middle Ages: when Church 2 was founded, it became the parish church of Tarbat, dedicated to St Colman. In the thirteenth century, a